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ABSTRACT

The Michigan Research and Development Utilization (RDU) project set out to increase the appropiate use of the educational products of funded research and development by local school personnel. The project's approach used and fostered the improvement of existing organizational and communication networks rather than attempting to establish new channels or introduce new participants. (This approach was selected for the additional purpose of strengthening Michigan's career education planning districts in their efforts to establish career education programming.) Results of the project include the implementation of career education products in forty-six of Michigan's school districts and increased use of the project's problem-solving perspective. The four reports presented in this paper discuss the outcomes of the Michigan RDU project from four points of view: (1) observed effects across local schools of a state-initiated change process: (2) the expectations the individuals who played formal linkage roles had for themselves and their assessments of the levels of the skills they possessed and would need to carry out these roles: (3) the views of the school staffs in the forty-six school sites regarding the components of the Michigan RDU process: and (4) the observed effects of the RDU product implementation in school sites. An appendix lists the locations in Michigan where the best of the implemented products have been placed for further review and use by school people. (KC)

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MICHIGAN RESEARCH AND DEVELOPMENT UTILIZATION PROJECT

PROJECT CEDISS

CONTRACT #400-76-0093

CE

FINAL REPORT

CE027689

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Michigan RDU Project
[redacted] Final Report
Summary

The Michigan RDU project set out to increase the appropriate use of the educational products of funded research and development by local school people. The project's approach used and fostered the improvement of existing organizational and communication networks rather than attempting to establish new channels or introduce new participants. The project selected this approach since it had the additional intention of strengthening the capacity of Michigan's career education planning districts to provide technical assistance and leadership to local school districts in their efforts to establish career education programming.

In 1974 Michigan's Legislature established the requirement that all local and intermediate school districts begin planning for the integration of career education into their curricula and educational service efforts. The RDU project afforded the State Department of Education the opportunity to support these planning activities in a pilot effort. It also afforded the Department the unusual luxury of examining the entire process with a new level of thoroughness. The resulting information could be used to improve the Department's dissemination and technical assistance efforts not only in career education, but also in subject matter areas and school support areas such as nutrition, safety, and transportation.

Michigan also had the advantage of operating a state dissemination capacity building project. This project, which was also administered by the RDU project's director, was intended to increase the degree to which school people turn to formal information sources rather than remain solely dependent upon associates and other informal sources. The project set as its goal the increase in use of the resources available through intermediate, regional, state, and national information bases. The Capacity Building project complemented the RDU project by strengthening the resource search and acquisition systems available to school people. The Department's approach to dissemination capacity building was similar to the RDU's. The Department would strengthen the existing system of linkages among providers rather than create either a new network or a new resource base.

The consequence of this strengthening rather than developmental approach was the RDU project's dependence upon the recognition and acceptance by the individuals and institutions involved in career education of the fit of the RDU project's purposes and operational requirements within their organizational and value structures. The four reports presented here discuss the outcomes of the Michigan RDU project from four points of view:

1. Observed effects across local schools of a state initiated change process.

2. The expectations the individuals who played formal linkage roles had for themselves and their assessments of the levels of the skills they possessed and would need to carry out these roles.

3. The views of the school staffs in the 46 school sites regarding the components of the Michigan RDU process.

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4. The observed effects of the RDU product implementations in school sites.

Overall, the following conclusions may be drawn:

1. Detailed clarification of specific purposes and expectations is needed when a new decision-making approach with attendant role changes is promoted for school adoption.

2. Resources must be available at the initiation and during the follow-through of the change process.

3. The operational definition of linkage must suit the specific organizational environment.

4. School personnel training and technical assistance is needed in the implementation stage of R & D utilization as well as during the problem-solving stage.

5. There was spill-over of the problem-solving approach into curricula areas beyond career education and adoption of the process by teachers and administrators who were not formally part of the project effort.

6. Schools will search through and make use of existing R & D products. However, over-emphasis on the formal search and selection process can lessen teachers' and administrators' enthusiasm for the products and may push them to more traditional, less taxing curriculum development efforts.

The text of the report is supplemented by an appendix which lists the locations in Michigan where the best of the implemented products have been placed for further review and use by school people.

Two results of the project are the reported implementations of career education products in forty-six of Michigan's school districts and the problem-solving perspective that appears to have taken hold in these schools. Other results of the project are the products which are now being distributed to educators in Michigan and across the country as well as to the National Institute of Education. These products are: Problem-Solving: A Practical Guide to Attaining Goals; Problem-Solving Workshops: A Trainer's Guide; Bias Review Procedure: A Procedure for Detecting and Documenting Sex, Race and Other Biases in Educational Materials; Working With Educational Product Sales and Service People: A Guide to Educational Resources; Trainer's Package; and Product File.

Additional products are the evaluation documents produced by the High/Scope Educational Research Foundation. These have been provided to Abt Associates as required by the National Institute of Education. These documents include: site case studies; problem identification, solution, and implementation reports; and cross site analyses.

STRATEGIES AND OUTCOMES OF PROJECT CEDISS: SUMMARY REPORTS REGARDING MICHIGAN'S RDU PROJECT

SUBMITTED TO:

RDU Program

National Institute of Education

SUBMITTED BY:

Philip H. Hawkins
Director of Planning

Michigan Department of Education

November 28, 1979

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High/Scope Educational Research Foundation
Evaluation of the Michigan Department of
Education's Project CEDISS
(Career Education Dissemination)

Project CEDISS. Michigan Department of Education
Cross-Site Analysis

January 1980

Prepared by:

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CEDISS Cross-Site Analysis

1. Which school and school district conditions are most associated with successful solution of school problems?

In answering this question, using data from the case studies, we kept in mind the probability that no one set of conditions is going to interact in a uniform manner to create a positive atmosphere for local problem solving. Also, different conditions appeared to be more or less important, depending on the nature of the problem to be solved. Nonetheless, the following conditions were found generally to affect solution of local problems:

a. The organizational environment. The organizational environment included strong well-respected leadership close to, or within the site of the project; a general atmosphere of support for innovative activities; enough autonomy for participating teachers so that they can adapt problem solutions to their classroom needs; and clearly defined role expectations and responsibilities for actors involved in problem solving. One finding from a number of our sites, for example, was that there did not need to be widespread participation in early decision-making about problem solving/solution selection in CEDISS sites, because pre-defined roles led naturally to particular actors involving themselves in particular decisions. In Rolling Rock, delegation of responsibilities by a site coordinator led to failure to get the project off the ground because there was no authority or personal stature vested in the substitute coordinator--people simply ignored him. In Treeline, a recent history of innovation-overload led to wariness and skepticism of CEDISS, and half-hearted participation by at least one of three teachers involved. But in Bayfield and Penton, clear lines of authority and widely respected leadership led to sustained progress through the course of a project, particularly from initiation into implementation.

b. Precedents. Precedents include no negative recent history with attempts to solve the problem under consideration; pre-project relationships among participants; pre-existing decision-making and communications patterns; and pre-existing values held by participants and brought to bear on the tasks of the project. None of the project sites had any particularly strong negative history with career education. Nonetheless, there was in a number of sites a widespread lack of understanding of the goals and strategies of career education among the general teaching staff of the district and most central administrators. This low level of consciousness contributed to a very focused, small-scale implementation effort in CEDISS, since at most sites only a few teachers were interested in implementing a career education product

(Penton was an exception). CEDISS had little effect, then, on pre-existing decision making and communications patterns at all sites. But pre-project patterns served to provide a process for getting the project initiated and into full gear. In Bayfield, for example, participants expressed satisfaction with pre-existing relationships, roles, and problem-solving processes--there was no locally perceived need for change. One of the clearest conclusions from the case studies of CEDISS sites was the necessity for the state to take into account and respect the legitimacy of pre-existing values, relationships and processes. The CEDISS linking agents had to work with clear, pre-project expectations of their role and authority vis-a-vis the local sites. In no site did a new role for the linking agent emerge.

c. Widespread perception of the problem as a problem. This area included activities such as needs assessment giving legitimacy to the definition of a problem; consensus among project participants and key local administrators; and a feeling that the problem identified required action. In CEDISS, evidence from the sites indicates that at least those involved with the project, and frequently a majority of the community (parents and business leaders) perceived the problem to be serious enough to warrant action. On the other hand, many non-CEDISS teachers and administrators did not perceive the problems identified in CEDISS as being as serious as other educational problems. This led, as had been mentioned, to focused, small-scale implementation. The CEDISS-identified problems were more frequently "chronic, low level" problems (i.e., there, but capable of being lived with). CEDISS itself provided the "sense of urgency" that was needed to attack the problems identified.

d. Reasons for site involvement. Reasons for site involvement relate to (c) above: many of the sites had one or a few career education problems that had existed in the district for at least a few years prior to the project. Thus, problems preceding CEDISS were solved with CEDISS money--CEDISS acted as a catalyst. Many sites used CEDISS money to attack a problem that eventually would have been attacked anyway. As the site coordinator at Villeneuve put it, "CEDISS just put us ahead two or three years; we eventually would have implemented the AEL product anyway." Although, in most sites genuine problems in career education did exist, sites were not nominated for the CEDISS project on the basis of an identified problem. CEDISS was "internalized" at all sites as a product selection and utilization project, not a process-innovation/renewal project. Reasons for involvement hinged around the funds made available to buy career education products. Thus, reasons for involvement led to particular patterns of start-up and implementation.

e. The characteristics of the innovation. Such characteristics included the degree to which the innovation threatened existing practices; the context matter; the complexity of the innovation; and how clearly the innovation was defined in people's minds. In the CEDISS sites implementing a product at the elementary level--for example Penton and Treeline--a number of issues relating to relationship of the product to existing curriculum were crucial because career education at the elementary level is usually infused into the existing curriculum, not added on. Thus, teachers who felt that career education was supplanting basic skills instruction tended to implement less wholeheartedly. Those who viewed it as an orientation, not threatening basic skills time, tended to be more favorably disposed. At the secondary level, career education in CEDISS tended to be in a separate class--as in Bayfield and Villeneuve--and was only threatening to the extent that it "invaded academic department turf" in terms of distribution of class time. Career education in general seems to carry intimations of blue-collar, vocational activities for many administrators and teachers, and CEDISS local leadership had to contend with this stereotype concept in a few sites. In one site, Villeneuve, the complexity of the product prevented it from being fully implemented for most of the first year of implementation. The teachers took that long to learn how to use the whole product in an integrated fashion. In all sites, if the innovation was clearly defined in people's minds there was generally straightforward implementation.

f. Sufficient time. Sufficient time included the timing of external assistance to local sites implementing an innovation; sufficient time for planning, training, materials preparation, and other pre-implementation activities; and sufficient time for teachers to learn to use a new product in the classroom. In all case study sites in CEDISS, the timing of the state's assistance to local sites was considered to be a serious problem. The state-level project managers tried to do three things: (1) develop a pool of product resources; (2) train site people in problem solving, and (3) try to get sites to go through a problem solving process--simultaneously. Unfortunately, this was not a completely successful process. The sites were expected, for example, to choose a product based on the problem defined, but were not provided the product descriptions necessary to choose that product. Thus, it was not surprising that almost all sites simply chose products that the linking agent or some other key local figure happened to know about and like. The state was late in providing assistance at almost every key decision point in the project. Consequently, many sites did not use the state as a source of external assistance. While most sites had adequate time for pre-implementation activities, they did not have tools.

g. Adequacy of human and material resources. This area included a person or people with skills and time to help a site get started on an innovative project; linking agents with adequate time commitment and personal commitment to the project; project local leadership with adequate time and personal commitment; and availability of funds and materials necessary to each phase of the project. The CEDISS change agent--the linking agent--was, in most cases, only involved with CEDISS for a small portion of his or her time. This led to a limited commitment, at best, and usually little contact with sites during the course of the project. In most cases, also, the linking agents had no training or skills in an area that was crucial to the early stages of the project, from the state's point of view. This was in influencing or modifying a local district's problem-solving approach to conform to an external model--in this case the state's model. Likewise, local project leaders in all sites had other, often very demanding, responsibilities which prevented them from focusing much energy on CEDISS. This may have contributed to minimizing the impact of CEDISS on local practices.

h. Contingencies. Contingencies included administrative turnover; other ongoing innovations; declining student enrollment; funding problems; and personal feuds among district staff. All of the above factors affected the course of CEDISS in at least one site. In Villeneuve, pending administrative turnover led a key project participant to behave very cautiously, in order to be sure not to put his position in jeopardy; in Bayfield a new superintendent helped breathe life into career education activities; in Treeline, other curriculum innovation projects ongoing drew energy away from CEDISS; and, in Bayfield again, a millage vote that failed dampened enthusiasm for CEDISS for awhile and caused the loss of an early key participant in the project.

2. How may (local) conditions be acted upon so as to improve the problem-solving process?

In order to make some recommendations in this area, an a priori assumption must be made that the local problem-solving process needs improvement. Otherwise, the prior question to (2) above would be: Is the existing problem-solving process inadequate, and, if so, in what way? The evidence from CEDISS is that even asking that prior question aids the external change agent in his or her intervention, because it implies acknowledgment that the new process is not filling a vacuum; rather it is attempting to modify a set of existing practices.

Thus, the first point to be made in answering (2) above is: the change agent, to improve the local problem-solving process, must come to understand that process, and its history. Also, the evidence from the case studies in CEDISS indicates that external pressure can be used to modify local problem-solving processes only to the degree that modifications fall within some acceptable range of dislocation. Local school systems allow for some degree of disruption, especially when additional resources are made available due to that disruption. But the "range" is fairly narrow.

Under what conditions can fundamental changes in problem-solving processes be brought about in a local setting? This question remains unanswered based on evidence from the Michigan CEDISS project. Particularly in moderate and small size school systems, a small number of individuals generally make the majority of major decisions. It is simply not clear how they could be asked or forced to share a substantial amount of their decision-making authority. In fact, evidence from Penton and Treeline indicates that teachers, for example, don't feel a need to become involved in certain types of decisions. Even when a new problem-solving process is mandatory for participation in an innovative project, as was the case for CEDISS, the tendency appears to be passage through the process in a minimal, pro-forma manner, and return to pre-project patterns of decision-making as soon as project requirements are fulfilled.

Nonetheless, evidence from the CEDISS sites suggests a number of concrete ways to influence, at least incrementally, local problem-solving practices. The needs assessment proved to be a very useful tool to mobilize people around the problem in the Copper Lode site. The needs assessment process and findings lent legitimacy to the problem definition arrived at and enhanced consensus among community members and school officials. As one CEDISS participant noted, the needs assessment keeps key administrators from openly resisting a project, even if they don't support it.

CEDISS demonstrated that another way to act on local conditions so as to improve problem-solving processes is to provide local systems with human and material resources. For example, to get teachers involved in identifying problems and finding solutions to those problems it is often

necessary to "buy" them release time--external funds are useful here. A resource person with skills in problem solving, some substantive area, group process, etc., who is available to work with a local group on a regular and consistent basis, can influence that group. Sometimes, bringing a product developer or some other person with a fresh idea in can have a catalytic effect. This was the case in Villeneuve. Making funds available to implement an innovation--a straightforward intervention--can bring a group of people together who normally don't interact as a group. By expanding the pool of "solutions" available to solve a problem, an external or local change agent can make it necessary for local people at least nominally, to go through a problem-solving process to select the most apt solution.[1]

Experience from CEDISS suggests that it is possible to modify receptivity to an innovation or an innovative project. There was some trade-off in CEDISS between project effects on problem-solving processes and ease of installation of the innovative product. That is, the less disruptive the CEDISS project was within the local setting, the less the likelihood of long-term effects on problem-solving practices. In Treeline, for example, project directors decided that the innovation was so small that it wasn't worth people's time to go through a formal, group problem-solving process. In most of the sites of the CEDISS project, teachers felt free, also, to adapt the innovative product selected for classroom use, and this enhanced receptivity to the product. Teachers felt that they had some autonomy within the project.

The relation between project effects and ease of installation suggests another way of modifying receptivity to a new process or project. That is, to demonstrate to local participants that the benefits of going through a new or modified problem-solving process are worth the costs. Some kind of incentives must be offered that are of value to local participants. Decision-makers asked to share authority must feel that there is something they can gain by sharing decision-making power. This approach to acting on local conditions was generally absent in CEDISS.

The attitude of the change agent toward local conditions is, as was mentioned, central to modifying local practices. Two points emerged clearly in CEDISS: (1) the change agent must relate local sites to his or her model of problem solving at whatever point they are at; and (2) the change agent shouldn't expect local sites to drive themselves through a new problem-solving process, using some calculus of internal motivation.

With respect to the first point, CEDISS started out with a flexible model, containing a number of potential paths for local sites to follow. It seemed that the model would interact with local practices, and both would adapt themselves. Yet, in applying the model, the state made no attempt to

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[1]On the other hand, in at least one CEDISS site, Bayfield, certain CEDISS participants felt overwhelmed by the variety of alternative products, and simply couldn't face going through them all systematically.

bring itself to where the sites were: the sites were expected to do all the moving. This proved to be unrealistic, and led to minimal process effects from the project. All sites, without exception, followed their existing problem-solving practices, clothing them in the language of the state model to insure compliance with project regulations.

With respect to the second point, evidence from the CEDISS sites indicates that local sites cannot be expected to be inherently motivated to go through a new, formal problem-solving process just because they are participating in an innovative project. Local practices are inevitably deeply engrained, and are part of a historical pattern. Alot of effort is needed to jar them loose.

3. Are there any features of the nature of the problem that should guide the management of the problem-solving process?

It is difficult to answer this question in a straightforward manner based on evidence from CEDISS, because the CEDISS project as an intervention created a need for sites to have a problem. In every school district there are a multitude of problems perceived to be so by particular individuals and groups. Even those few problems universally acknowledged to exist--for example, gradually eroding achievement scores for children in some grades--are interpreted differently with respect to cause and seriousness by various groups.

Thus, as a first point, it can be concluded that why a problem is identified and who identifies that problem should be considered in the management of the problem-solving process. Ownership of the problem is crucial. In the case of CEDISS, a problem was identified to satisfy requirements of a project in order to acquire some external resources. While everyone involved with CEDISS at a site usually felt that a genuine problem existed, only a few people at each site, at most, felt that a serious problem existed. As the site coordinator at Villeneuve put it, lack of career planning and decision-making skills among high school students is seen as a "chronic, low-level problem." Such a problem doesn't have a large, active constituency fighting for its solution.

Almost all the CEDISS sites defined their problem as a goal statement. That is, they viewed the "problem" as justifying the use of the resources they would be granted through the project. Implications for management of the problem-solving process for CEDISS were (1) to steer the course of problem identification to show that there was a need and use for the proposed funds; and (2) to define a problem in terms of the project (i.e., ascertain the project's goals). That is why one site, Treeline, defined its problem in terms extremely similar to the stated goals of the statewide project.

Who defines the problem relates closely to who feels committed to solving the problem. Most teachers who eventually participated in CEDISS project did not take part in early problem-solving activities. The CEDISS project to them was using a new product or products in their classroom. Some knew of the problem defined in their sites, some didn't. Few changed their teaching to "solve" the problem. Those few teachers who were involved in problem-solving processes, such as Bill Armone in Villeneuve, clearly felt a greater sense of ownership of the problem, and were more inclined to change basic teaching practices with reference to the problem.

The number of people affected by a problem should influence the management of the problem-solving process. This proposition was at work implicitly or explicity in all the CEDISS sites. Local managers of CEDISS only involved people who had to be involved at various points in the problem-solving process. There was what could be called an economy of participation. In Bayfield, Treeline and other sites, for example, only those district administrators who clearly had to be involved in early decisions were brought in to the process.

There was what could be called an economy of participation. In Bayfield, Treeline, and other sites, for example, only those district administrators who clearly had to be involved in early decisions were brought in to the process. In Penton and Treeline, a conscious decision was made not to involve teachers in elements of the problem-solving process that didn't specifically concern their needs. The economy of participation rule translated, in some CEDISS sites into: the problem-solving team should be relevant to its composition to the task at hand; it is not effective or efficient to involve people in issues that don't interest them. In a number of CEDISS sites parents who were members of the site team did not participate in product review sessions after the first session. Product review did not interest them.

Economy of participation conflicts in its purposes with ownership of, and therefore commitment to, the problem. In Treeline, for example, and to an extent in Penton, teachers not involved in early decision-making said that there was no need for them to be involved. But those same teachers were less committed to CEDISS as a project. There is a need, then, for managers of the problem-solving process to balance participation and consensus seeking with economy and forward progress.

Whether a problem is novel or has a history in a particular setting also influences the management of the problem-solving process. For example, there is evidence from the CEDISS sites that a novel problem may require consensus-building activities to enhance likelihood of adequate local commitment to its solution. In some cases novel problems require more external assistance in their solution. A manager trying to solve a problem that has been in existence in a local setting for some time should pay attention to the history of attempts to solve that problem. Managers of the Treeline CEDISS project were aware of long-time resistance to career education by the elementary director. They thus managed to work around this person in implementing a CEDISS product in the elementary schools.

The size and complexity of a problem should, and usually do, guide management of the problem-solving process. For example, the problems identified by the CEDISS sites were generally small, in terms of number of people effected, compared to others in the districts. Thus, relatively few actors became involved in their solution. It wasn't usually necessary to form committees and go through formal district lines of authority in order to implement one or two classes of career education. In Bayfield and Penton, for example, the principals only, rather than a full committee, were needed to authorize implementation. In Treeline the extensive and complex district machinery for implementing innovation was avoided: the problem just wasn't large enough.

More complex problems tend to affect either more people, or affect people in more ways, or both; they are harder to manage than simple problems. Managers of more complex problems have to be more sensitive to the political ramifications of changing local practices to solve such problems. Disruption and dislocation of other activities is usually a significant effect of trying to

solve complex problems. A number of the local managers of CEDISS projects reduced the complexity of their problem by defining it so that it affected fewer people in clearly delimited ways. This tended to make CEDISS an easier project to manage locally.

4. What kinds of external tactics or resources are most effective at various phases in the problem-solving process?

High/Scope's final Site Status Survey, administered just before the end of the sites' participation in CEDISS, revealed that sites felt they needed the most outside help in three particular phases of the problem-solving process: searching for a product, selecting among the products found, and evaluating the products implemented. They felt much less need for help in three other steps: identifying goals, defining specific needs, and implementing the product. Figure 1 displays those responses graphically.

Survey respondents said that if they were beginning CEDISS again, the resources they'd want more of would be training (both on site and at workshops), products to choose from and time to complete the project. Half of all respondents said that they would need no more funds than they were granted, but another 30% said they'd need "a lot more." (See Figure 2.)

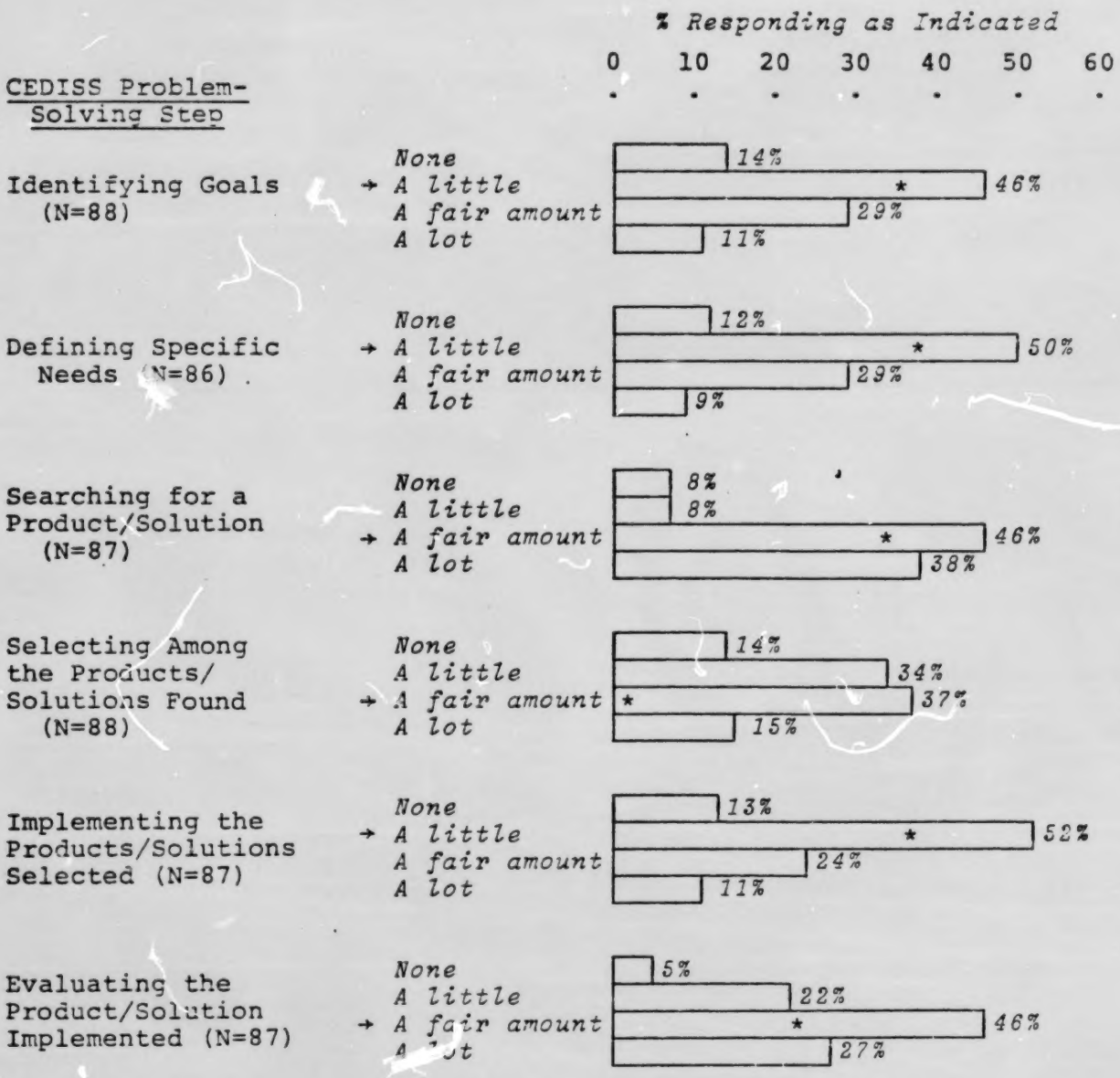
We observed during the course of CEDISS that even when sites needed considerable assistance (by our personal standards), many were not aggressive in requesting it (from MDE, High/Scope, the ISD, or local sources). Perhaps this reflects low project motivation in the sites observed, or perhaps it means that they had low expectations of being satisfied. In either case, we believe that the projects at those sites would have been stimulated by supportive visits from the staff connected with CEDISS at higher levels, from the ISD on up. It appears that such visits should be made as early as possible in the life of the project, and often. The dilemma, of course, is that all the would-be visitors are busy getting organized themselves during this start-up period. Yet, early and encouraging contact with higher staff seems critical to the vitality of local projects undertaken at long distances from the sponsoring agency.

Workshops served both to convey valuable information and to give participants a sense of "specialness." Thus workshops represent an important mechanism of project management. (Figure 3 shows how CEDISS participants rated Workshops 1-3, among other resources.) But school practitioners can be devastatingly critical of teaching that doesn't meet their standards, so it is especially important for the content of the workshops to be seen as relevant and the presentation effective. In this connection, a strong effort should be made to relate each workshop to the immediate practical needs of the various participants. This is easier to accomplish in small regional gatherings than in large centralized ones. Note in Figure 3 that Workshop 3, which was designed to provide for special consultation with each local group, received the highest ratings of all three workshops.

Periodic follow-up on early contacts is also urged. This can be done effectively by phone in most cases, and the intervals can be longer in the later stages of the project. Such contact provides sites with assurances of continuing concern for their success and also serves as an invitation for site personnel to request assistance that they might not otherwise ask for.

Figure 1

Question 1: SUPPOSE YOUR SITE WERE JUST NOW BEGINNING THE CEDISS PROBLEM-SOLVING PROCESS. HOW MUCH OUTSIDE HELP (FROM MDE OR ELSEWHERE) WOULD YOU WISH FOR AT EACH STEP?

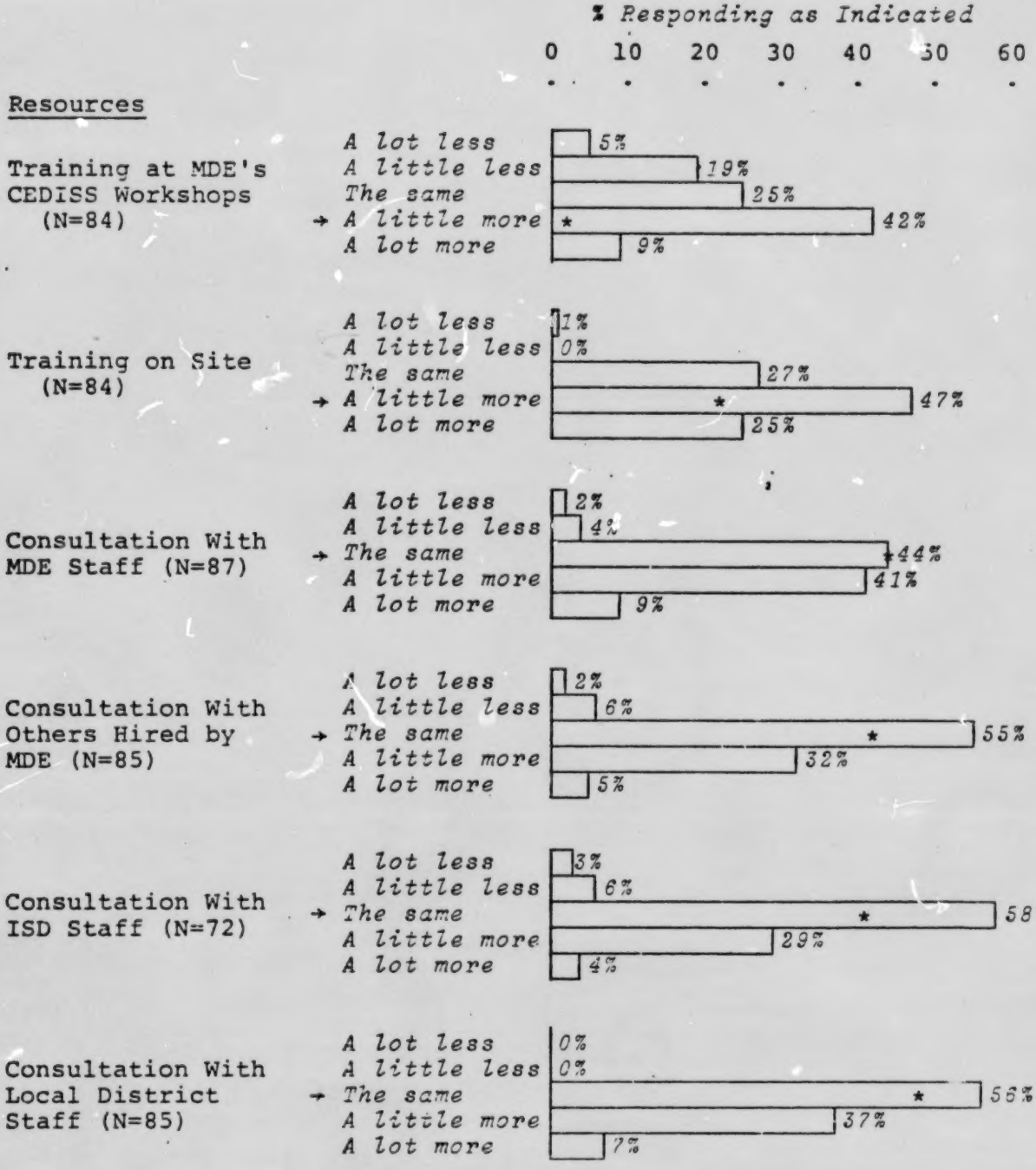


*Median case

→ Category containing the median case

Figure 2

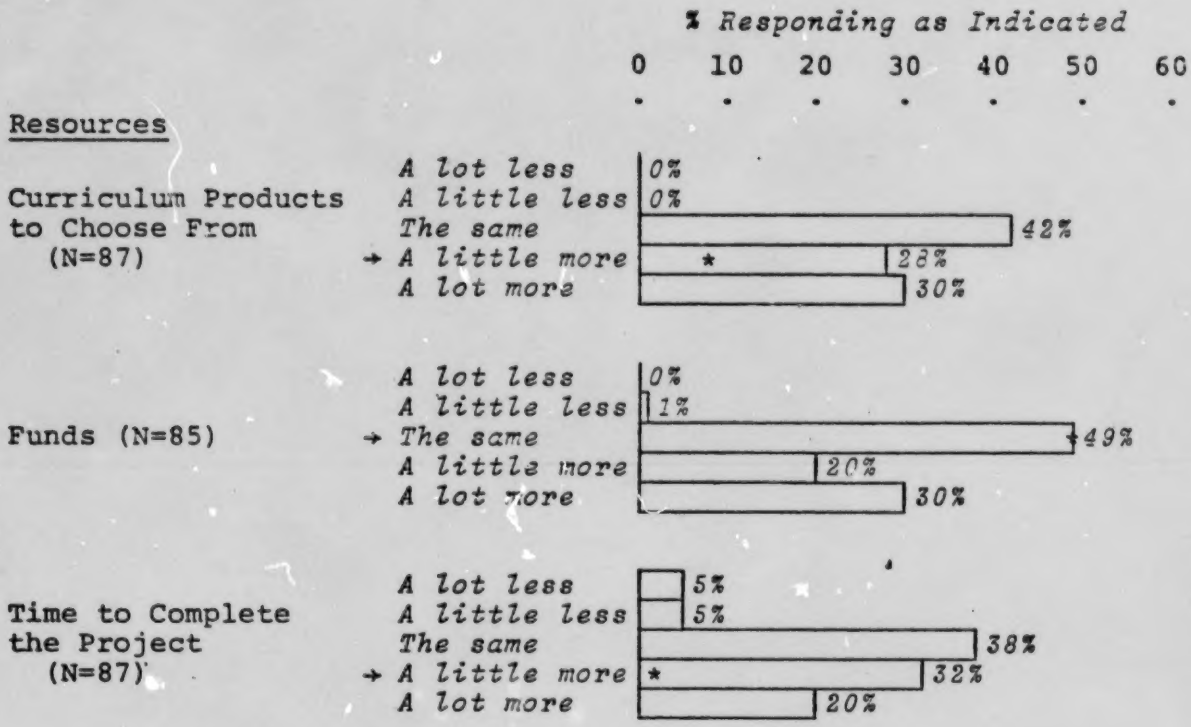
Question 2: IF YOUR SITE WERE BEGINNING THE PROBLEM-SOLVING PROCESS AGAIN, WOULD YOU WANT MORE OR LESS OF THE FOLLOWING RESOURCES THAN YOU ACTUALLY HAD?


% Responding as Indicated
0 10 20 30 40 50 60
Resources
Training at MDE's CEDISS Workshops (N=84)
A lot less 5%
A little less 19%
The same 25%
→ A little more * 42%
A lot more 9%
Training on Site (N=84)
A lot less 1%
A little less 0%
The same 27%
→ A little more * 47%
A lot more 25%
Consultation With MDE Staff (N=87)
A lot less 2%
A little less 4%
→ The same * 44%
A little more 41%
A lot more 9%
Consultation With Others Hired by MDE (N=85)
A lot less 2%
A little less 6%
→ The same * 55%
A little more 32%
A lot more 5%
Consultation With ISD Staff (N=72)
A lot less 3%
A little less 6%
→ The same * 58%
A little more 29%
A lot more 4%
Consultation With Local District Staff (N=85)
A lot less 0%
A little less 0%
→ The same * 56%
A little more 37%
A lot more 7%

*Median case

→ Category containing the median case

Figure 2
(continued)

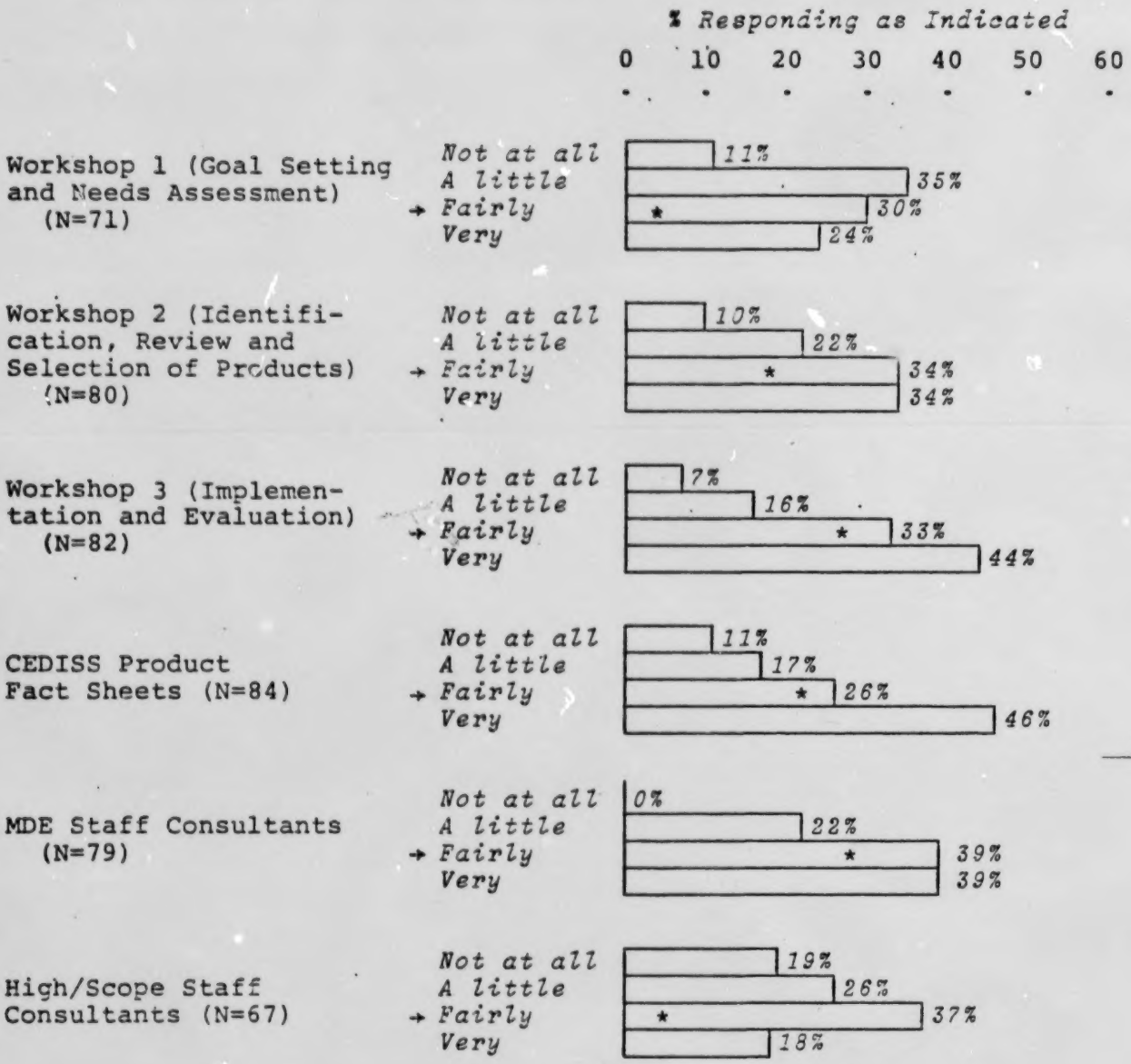


*Median case

→ Category containing the median case

Figure 3

Question 3: HOW USEFUL WAS EACH OF THE FOLLOWING TO YOUR SITE'S PROJECT?



*Median case

→ Category containing the median case

5. What types of linking agent roles should be defined to improve the exchange between the disseminating agency and the potential school client?

Process and Product Aspects of the Linking Agent's Role

The CEDISS sites that followed MDE's problem-solving model en route to implementing a career education product were actually carrying out three innovations: (1) the use of a new decision-making process to (2) select a new product which was to be (3) implemented by a new organizational process. Different kinds of linking behavior were called for by these three separate innovations.

Many CEPD coordinators felt somewhat remote from local districts' decision-making mechanisms, and hence were shy about involving themselves prominently in the school's deliberations under CEDISS. From what we know of the way ISDs were regarded by the local schools, we judge the CEPD coordinators' reticence to have been politically prudent. In most cases the CEPD coordinator had neither the formal authority nor the informal social recognition that would have been required for close involvement in the decision-making process. In general, site teams proceeded on their own to establish the nature of the local problem, and depended on the CEPD coordinator, if at all, mainly as a product librarian. Many CEPD coordinators felt comfortable with this restricted function, since their usual role vis-a-vis schools is to deliver resources, not to manage local activities. Furthermore, the coordinators were better acquainted with MDE's conception of eligible products than they were with MDE's conception of the process by which the products were to be chosen.

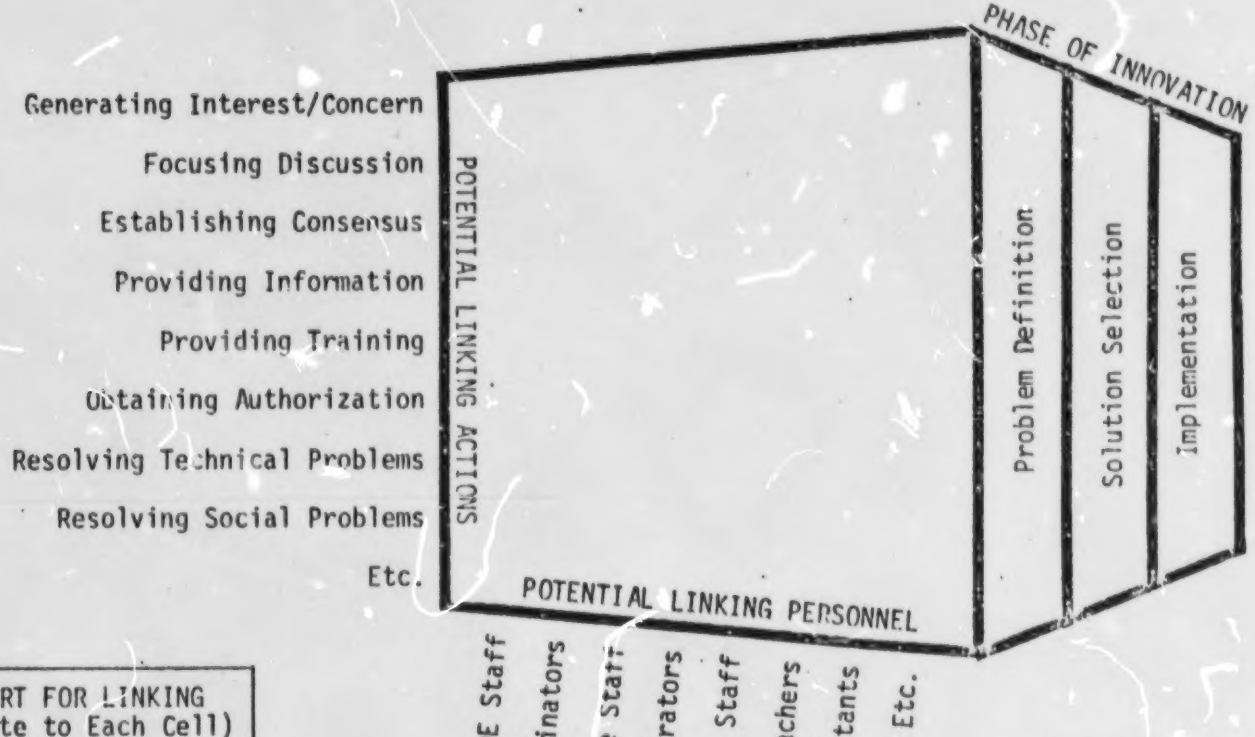
Once a product had been selected, the CEPD coordinator was again in the unaccustomed realm of process--this time the process of installing the product in the schools. And again the coordinator was not equipped by precedent to involve himself in this highly political aspect of school affairs.

If we assume that these three phases of innovation (let's call them "problem definition," "solution selection," and "implementation") are characteristic of projects like CEDISS, then MDE's task is to identify (a) the linking actions conducive to each phase, (b) the personnel who can most effectively carry out the actions, and (c) the kinds of support (training, resources, authority) that these personnel will need to fulfill their linking roles. Figure 4 illustrates this point of view with examples.

Our experience with CEDISS suggests that linking responsibilities should perhaps be transferred from office to office as an innovation progresses. For example, local school district staff might take responsibility for seeing things through the problem definition phase, at which point the CEPD coordinator could pick up on the task of product selection, whereafter implementation would be managed by teachers or administrators from the local schools. This

Figure 4

An Illustrative Framework for Considering Linkage Requirements



POTENTIAL SUPPORT FOR LINKING PERSONNEL (Relate to Each Cell)
Training in Group Dynamics
Training in Project Management
Familiarization with Relevant Products
Access to Materials
Access to Funds
Access to Support Staff
Fiscal Authority
Managerial Authority
Etc.

whole process would be overseen by someone central to the project--perhaps special advocates assigned on a regional basis by MDE. The critical point is that each separate phase of innovation requires its own brand of facilitation, calling for different attributes on the part of the linker.

Adaptation of Linkage Arrangements to Site Conditions

Ideally, linkage arrangements would be tailored to suit the character of each site. If the requisite qualities of a linking agent were determined to be, say, local credibility, political acuity, and knowledge of the substance of the innovation contemplated, then the role of linking agent might go to the individual who best fit this description, whether the CEPD coordinator, superintendent of schools, principal, or teacher. We found in CEDISS that certain people emerged as natural facilitators and that these were not necessarily the same kinds of people from site to site. There is no uniform set of categories from which linking agents can be confidently selected in the future. However, it might be possible to develop a systematic nomination procedure whereby school staff in each locality would identify individuals from their circle who possessed the characteristics critical to effective linkage. This would probably complicate the state's job of project management, but it would also avert some of the problems that occur when responsibilities are assigned by fiat to those who lack requisite qualities.

Provision of Incentives for Active Linkage

MDE, beyond providing the resources a linking agent needs to carry out his or her role, should also provide incentives for active fulfillment of the role. If a linking agent could count on the rewards of local gratitude, affable social contact, enhanced political status, and career advancement, MDE could count on more diligent performance on the linker's part. Under CEDISS, these rewards were sometimes missing. Vocational-technical coordinators, for example, tend to identify so thoroughly with vocational matters that career education responsibilities are regarded as a burden to be minimized. Thus they cannot be expected to show great initiative under a program like CEDISS unless their own interests are somehow made organic to the program.

6. What types of individuals should be selected for linking roles?

Ideals Vary with Situations

It seems clear that different types of linking agents are called for in different school settings, but our experience is not complete enough to allow us to be definitive about these differences. At best, we can describe what we perceive to be the salient characteristics of successful linking agents in general, acknowledging that there are many linking agents who depart from this general description and are nonetheless very effective in their local settings.

Political Credibility and Professional Incentive

The linking agent is a buffer as well as a nexus. He or she serves not just to channel outside resources to local projects but also to handle the red tape that inevitably accompanies an externally funded project. This means that the linking agent should have some prior political credibility with the local staff. Further, he or she should be seen as someone who has an intrinsic interest in the success of the project rather than as a bureaucrat with just another burden to bear. Thus the linking agent should be someone who stands to share in the gains made by the project. In CEDISS, we found generally that CEPD coordinators who were not responsible for vocational education had a greater interest in developing career education programs, since their professional stature depended on the furtherance of career education. On the other hand, career education seemed to be a thorn in the side of CEPD coordinators whose main duties concerned vocational education. Local staff can be expected to be reticent to call on the help of a linking agent whose heart isn't in the work that they consider important.

Personal Acquaintance and Prior Authority

Personal acquaintance seemed to be a vital factor in relationships between local staff and CEPD coordinators under CEDISS. In cases where a familiar prior relationship existed, reliance on the linking agent was notably stronger. Thus a linking agent who has earned the trust of local staff stands a better chance of working effectively with them in cooperative ventures. If the linking agent already has a position in the line of command in local school affairs, that's a plus, since a precedent then exists for assumption of some degree of authority. Otherwise, it can be difficult to establish this authority within the time span of a project like CEDISS.

Assumption of a Facilitative Rather than Directive Posture

Many CEPD coordinators who were, in our eyes, very effective, acted as facilitators rather than initiators. That is, they saw their purpose as being to help local staff carry out their own decisions rather than urging the staff toward any particular decision. Linking agents who take this "facilitative" point of view are likely to have greater success in most cases than those who are inclined to impose their own initiatives. In this sense, many of the CEPD coordinators who were most effective under CEDISS were agents of stability rather than change.

7. What types of organizational settings and support mechanisms should be provided for linkers?

Our observations of linking agents in CEDISS were for the most part restricted to one type of linking agent (the CEPD coordinator) in a particular organizational setting (the intermediate school district). We can only speculate on what would have happened to other types of linking agents in other organizational settings.

The linking role described by CEDISS is basically compatible with the overall "mission" of the intermediate school district in Michigan. Intermediate districts are service agencies, designed in part to provide for local districts services that they would be unable to afford for themselves. This makes them in many ways an ideal setting for linking agents. There are some disadvantages associated with the ISD setting, however. In some areas of the state, for example, local school personnel that we spoke with view the intermediate district as remote and unresponsive, taking more from the community in tax dollars than it returns in educational services. In these areas it was difficult for CEDISS linking agents to provide the relationships that their role demanded.

The ISD is also a less than ideal setting from which to intervene in the decision-making and problem-solving processes of local schools. The ISD is a service agency with little direct authority over constituent schools. The ISD prospers by making itself useful to local school administrators. As Bayfield and Penton case studies illustrate, there is considerable incentive for helping schools identify products that meet identified needs. There is much less incentive, however, and indeed considerable risk, for ISD personnel to intervene in schools' problem-solving and decision-making processes.

The ISD setting for CEDISS linkers seemed to work best when the local site was in a relatively small school district. Larger school districts in Michigan, such as Rolling Rock and Treeline, duplicate many of the functions and services of the intermediate district. School personnel consequently have little contact with the ISD. In Rolling Rock, for example, the school district had its own Office of Career Education staffed by specialists who assisted local schools in designing and fielding career education programs. In larger school districts such as these, the district itself may be the best setting for linking agents.

Several alternative settings for CEDISS linking agents were observed while preparing the CEDISS case studies. These were the Regional Educational Media Centers (REMCs), the Supplemental Centers, and the Professional Development Centers (PDCs). Although all of these centers are housed in particular intermediate school districts, each serves a region that spans several ISDs. There are 22 REMCs serving the 55 intermediate school districts in Michigan. The REMC was designed to serve as a resource library for educational media, such as audiovisual products. In practice, many REMCs

have expanded their focus to include a much wider range of products and services. Each REMC has a resource librarian to assist local schools in identifying resources that meet their needs.

The Regional Supplemental Centers (supported by Title IV C of ESEA) and Professional Development Centers are more recent creations than REMCs. Currently, there are ten Supplemental Centers and six PDCs in Michigan. Almost all of these centers are housed in the ISDs with REMCs and serve the same region as the REMC (one PDC is located in a large local school district). Staff from the Supplemental Centers help schools adopt and implement products from a pool of programs validated through either the Department of Health, Education and Welfare's Joint Dissemination Review Panel, or the Michigan Experimental and Demonstration Classification Committee. Supplemental Centers are oriented toward process, and center consultants work with local districts in planning, needs assessment, product review and training. They do not for the most part provide money to districts for purchase of products, but they do help schools secure available state funding for their adoption. The mission of the PDC is to provide local schools with assistance in identifying and securing services needed to improve the professional capabilities of teachers. These services may include a validated product from the Supplemental Center's pool, but may also extend to consulting services or locally initiated training activities.

Although the REMCs, Supplemental Centers and PDCs are separate programs, many ISDs (such as Rolling Rock's) combine all three under one director and staff. The principal advantage of the centers as a base for CEDISS linking agents is that they are staffed by individuals trained in the RDU-style linkage and problem-solving processes. Further, by consolidating linkage programs in a few ISDs, a "critical mass" of trained linkers has emerged in several state locations who can support and encourage each other in their linkage activities.

A disadvantage of the centers is that by serving a large region they are sometimes quite remote from the schools they are supposed to serve. The closest REMC to Bayfield, for example, is almost three hours drive from the school. Aside from the geographical distances, the center staff is also remote bureaucratically. Bayfield's REMC, for example, is located in an ISD little known to Bayfield's principal and teachers.

The issue of optimum support mechanisms for linking agents has already been touched upon. A linking agent needs at least three things to be successful: information, legitimacy, and support. The CEDISS experience suggests some support mechanisms that help satisfy these three needs.

The linking agent depends on information to be effective. The most effective CEDISS linking agents--those in Bayfield and in Penton--were successful because they were perceived by teachers and administrators to be sources of information that was unavailable elsewhere. There seem to be several ways to maximize the information available to linking agents. First, pools of available products and consultants should be available to linking agents at the start of the project, not midway through it as was

the case with CEDISS. Second, the linking agents should be trained in the CEDISS approach separately before the start of the project, not after. By training CEPD coordinators with site teams, CEDISS created linking agents who were perceived by site teams as having no more knowledge about problem-solving resources than they. In Bayfield, for example, the linking agent was widely respected for his knowledge of career education products, but not for his understanding of the CEDISS problem-solving process. A third approach to increasing the information available to linking agents is to create a communications network among linking agents in a region or across the state so that any one linking agent can draw upon the knowledge of his/her colleagues to solve particular problems. Such a network exists now informally; it could be formalized and expanded.

Legitimacy is important at both the local and intermediate district levels. At each, the CEDISS linking activities must be perceived as a necessary part of the linking agent's regular duties. The CEDISS linking agents did not always have this legitimacy. Those who were also Vocational-Technical Specialists for their ISDs were expected to concentrate on vocational education, not career education. Local school administrators at Penton and Bayfield did not see involvement in problem-solving processes as a legitimate activity for their CEPD coordinators. Legitimacy can be created in a variety of ways. First, it seems to be important for local school administrators and staff to be made familiar with the goals of the project and the role that CEPD coordinators/linking agents will play in it. Second, if the new role is different from the existing role it must be supported financially by the project. The CEDISS project contributed nothing to the salary of CEPD coordinators, but expected them to become process-oriented linking agents in addition to vocational specialists. There was little time or incentive for this to happen.

Linking agents must have adequate support because intervening in local problem-solving processes is an inherently lonely task filled with frustrations. Few can succeed without support from supervisors, colleagues, and clients. There are several routes to support. In Rolling Rock, there were several linking agents housed in the same ISD because of the Supplemental Center and Professional Development Center. These linking agents provided a support group for each other. In Penton, an active career education advisory committee provided counsel and moral support for the linking agent. Several linking agents, notably those in Treeline and Penton, participated in a local circle of career education coordinators who could consult and encourage each other.

8. What types of training programs or orientation materials to support linking roles should be developed?

Conferring a Badge of Professional Expertise

Our experience with CEDISS sites suggests that a program of training should be provided to all linking agents, assembled as a single group or in regional groups, and apart from the clients they will serve. This training would help to provide a sense of professional identity, reinforce social contacts, and give the participants formal credentials as linking agents. These credentials would represent a badge of expertise not shared by the linking agent's clients, thus enhancing his or her leadership role. When linking agents and clients are trained together, on the other hand, the expertise is distributed equally, diminishing the linking agent's leadership status.

Promoting Professional Connections

One quality that made linking agents successful was the fact of their having "connections." They had the ability to locate needed resources, obtain higher authorization for local actions, produce critical information from external sources, and so forth. When linking agents are trained together, the social context encourages the formation of productive connections. They become a network of mutual resources, and membership in this network enhances their local linking functions. The functioning of this network should be reinforced by periodic conferences of linking agents, even after the initial goals of training have been reached. Communication and the sharing of resources could also be encouraged by the installation of low-cost telephone lines, publication of a newsletter, and institution of a computer-based conferencing system allowing rapid conversational exchange in print. Systems of this latter sort are operating now all around the country. Several are flourishing at the University of Michigan. One particular advantage of such a system is that it can be designed to allow automated information retrieval--for example, by searching out messages containing key words of special interest.

With this sort of support, Michigan's linking agents could coalesce into a self-sustaining professional society.

Emphasis on Active Participation in Lifelike Situations

Content: true to life. One of the main criteria that CEDISS participants used in judging the value of workshops was, understandably, the relevance of the training to their on-the-job responsibilities. When they liked a workshop, it was usually because it gave them ideas or skills that they could apply when they returned to their sites. When they didn't like a workshop it was usually because the content was too general, or too far out of phase with their own program, to be immediately applicable.

Method: active. In the same spirit, a training approach involving the active practice of new skills was preferred over an approach involving more passive participation in the form of listening, reading, viewing slides, etc.

Reliance on Existing Training Models and Materials

The National Training Laboratory in Bethel, Main has for many years offered training to personnel involved in promoting organizational change. Organizations such as Human Resource Development Associates in Ann Arbor, the Organization Development Consortium of Lansing, and the Network, Andover, Mass., also provide access to valuable training resources. The Rand Corporation's studies of change agents and of the process of change certainly constitute relevant material, as do the case studies that High/Scope performed for Project CEDISS. A simulation called "The Diffusion Game" (published, as we understand it, by the Northwest Regional Laboratory) was mentioned favorably by many CEDISS participants, who took part in the game under the auspices of the State Adoption Program. Finally, Peace Corps and VISTA volunteers and agricultural extension agents all receive training that should logically be relevant to the roles of linking agents in Michigan, and these programs bear examination.

In adapting these materials, emphasis should be placed on disseminating their contents through active modes such as personal conversation, public demonstration, and role playing. Materials that are merely presented between covers are liable to sit neglected, no matter how great their potential value. A number of CEPD coordinators admitted that they had never even looked at the manuals prepared for their use by MDE. However, if they were first introduced to the substance of these materials by active means, they would be much more likely to pull them off the shelf in the future to refer back to them as familiar resources.

PROJECT CEDISS LINKER TRAINING NEEDS: A COMPARISON OF 1976 AND 1979 FINDINGS

SUBMITTED TO:

Project CEDISS

Michigan Department
of Education

SUBMITTED BY:

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Communimetrics, Inc.

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"The work upon which this publication is based was performed pursuant to Contract No. 400-76-0093 of the National Institute of Education. It does not, however, necessarily reflect the views of that agency."

1.0 Introduction

1.1 This report summarizes the results of data gathered from 61 Career Education Planning District (CEPD) coordinators, Michigan Department of Education (MDE) personnel, and other individuals associated with the Career Education Dissemination Project (CEDISS). The data were obtained by mail questionnaire and telephone follow-up during the May-September 1979 time period.[1] The respondents to be contacted were provided to the contractor by CEDISS staff. The results are intended to provide information for use in the further development of training efforts to support Career Education activities in the state of Michigan. Three types of data were collected: job perceptions, training need suggestions, and communication network data. The study was designed to provide some comparability with a preliminary project conducted for CEDISS three years ago.[2] The results should assist persons responsible for Career Education programs to develop training and other forms of support necessary for effective program development.

1.2 The job perception data were based on lists prepared by CEPD coordinators, meeting in 1976 with the research staff. They were asked to name the major activities in their role as CEPD coordinators, and then to identify the characteristics of the work they perform in carrying out those activities, i.e., "what they must be or do to perform the activities."

The lists were condensed into an instrument (see Appendix A) which contained the activities they named. An item appeared on the instrument only if it was listed by at least two of the discussion groups. The items were simple declarative concepts of the form: "provide leadership," "public relations," or "fight for money."

The 1979 instrument mailed to 74 respondents contained all but one item from the earlier list (the "hide out" item was omitted because it was not relevant to the 1979 respondents). Each respondent was asked to rate the importance of each activity. They also rated their own skills at performing each activity. A rating scale varying from 0 to 10 was used, where 0 indicated complete unimportance or no skill, and 10 was complete importance or very high skill level.

1.3 The training needs suggestions were based on responses to four open-ended questions. Respondents were informed of four topics under discussion in the MDE as possible sources of training and assistance. They were: (1) development of a Community Resource Guide, (2) needs assessment, (3) area-wide intern programs for youth, and (4) area-wide job placement/job bank. About one-fourth of a page was provided to comment on each possibility.

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[1] For the complete instrument, see Appendix A.

[2] Farace, Richard V. and James A. Taylor, "CEPD Coordinator Training Analysis: Summary Report," submitted to MDE, October 1976.

1.4 The communication network data were generated by a network analysis instrument which asked respondents to assess their communication links with one another. They indicated how frequently (in the past six months) they talked with others on the list about three different topics: (1) their job, (2) Career Education, and (3) CEDISS. The instrument included the names of all CEPD coordinators, four Michigan Department of Education staff members, and other individuals. The network instrument is provided in Appendix A (see Part III). Of the 74 instruments initially mailed out, 61 were returned and usable (84%). The 13 not returned included nine who refused and four who had resigned, gone on leave, etc.

1.5 Job perception, training suggestions and communication network data were gathered to:

1. Identify major discrepancies between perceived skill and importance levels for 12 job characteristics, and compare with earlier results,

2. Summarize training needs suggestions in four areas relevant to Career Education in 1979-80 and forward, and

3. Examine the potential for facilitating communication among the respondents and compare with earlier resutls.

2.0 Results of Job Perception Analysis

2.1 Table 1 gives the rank ordering by importance of the 12 activities. The first column of figures gives the average (arithmetic mean) of the responses from the 61 persons who completed the instrument. The higher the value, the more important the activity was considered to be. The activities are ranked from most important to least important, top to bottom.

Table 1. Ranking of Activities: Importance

Activity	Mean	S.D.
1. Provide Leadership	8.97	1.87
2. Developing Plans	8.55	1.92
3. Information Dissemination	8.36	1.78
4. Identify Needs	8.36	1.78
5. Organize Activities	8.19	1.92
6. Interpret Regulations	7.97	2.18
7. Public Relations	7.89	1.92
8. Fight for Money	7.84	2.63
9. Write Proposals	7.70	2.05
10. Conducting Meetings	7.60	2.09
11. Fill Out Forms	7.48	2.54
12. Attend Meetings	6.98	2.47

The second column contains the standard deviations of the results around each mean. The larger the value, the greater the difference of opinion the respondents had about the activity. Conversely, a small standard deviation indicates high agreement about a given mean value.

The results indicate that CEPD coordinators view certain "subjective" activities as more important than other more "objective" tasks. In this sense, "providing leadership" and "developing plans" are much more elusive skills -- particularly in terms of training -- than, for example, writing proposals, because the former involves more complex interpersonal communication abilities.

While providing leadership and developing plans are considered the most important skills, filling out forms and attending meetings are least important. Furthermore, the top ranked items have the lowest standard deviations (show the greatest agreement) while the lowest ranked show the least agreement.

Two rank changes are particularly evident in comparing the 1976 and 1979 results. Public relations dropped in importance from third to seventh, while interpreting regulations rose from ninth to sixth. A third change of interest is the level of agreement about proposal writing -- although its importance rank changed little (tenth to ninth), the degree of agreement increased markedly (standard deviation of 2.05 in 1979 but 4.12 in 1976). Thus, in 1979 the respondents considered interpretation of regulations to be much more important than the 1976 respondents did, and also agreed much more on the level of importance they assigned to proposal writing.

2.2 Table 2 shows the skill levels the respondents assigned to the activities named in Table 1. Again, the first column gives the mean rating (from high to low), while the second column gives the standard deviation. In terms of skills, the top items are "filling out forms," "disseminating information," and "organizing activities." The areas of relatively lowest skill are "seeking money," "public relations," and "needs identification."

There were five activities that changed in skill rank by three levels or more, comparing 1976 and 1979 results. The 1979 respondents rated their leadership skill four ranks lower (two dropped to six). Public relations declined by 3.5 ranks (8 to 11.5). However, three activities had higher ranks -- organizing rose 3.5 ranks (6 to 2.5), attending meetings rose five (nine to four), and proposal writing rose three (12 to 9).

Table 2. Ranking of Activities: Skill Level

	Activity	Mean	S.D.
1.	Fill Out Forms	8.53	1.87
2.5	Information Dissemination	8.31	1.69
2.5	Organize Activities	8.31	1.60
4.	Conducting Meetings	8.26	1.67
5.	Interpret Regulations	8.19	2.00
6.	Provide Leadership	8.10	1.42
7.	Developing Plans	7.93	1.60
8.	Attend Meetings	7.75	2.42
9.	Write Proposals	7.60	1.84
10.	Fight for Money	7.46	2.22
11.5	Public Relations	7.45	2.11
11.5	Identifying Needs	7.45	2.11

2.3 Table 3 presents an ordered list of the differences between the activities' importance ranks and their rank in terms of skill level. The activities with the greatest discrepancy between importance and skill provide a way to identify training needs as reported by the respondents. The greatest difference exists for identifying needs and providing leadership. Thus, there appear to be continuing needs for training in the areas of needs analysis and providing leadership. Needs identification training was also first in 1976, but leadership training was not an item with appreciable discrepancy between importance and skill.

Table 3. Training Needed: Rank Order of Largest Negative Rank Differences of Activities*

	Activities	Rank Difference
1.	Identify Needs	-7.5
2.	Provide Leadership	-5.0
3.	Develop Plans	-5.0
4.	Public Relations	-4.5
5.	Fight for Money	-2.0

* Results are computed by subtracting skill rank from importance rank.

2.4 In Table 4, a rank ordering is given of the top five largest differences found in subtracting the mean skill from the mean importance ratings. This is an alternative approach to assessing areas of greatest training needs from the one in Table 3. Providing leadership and identifying needs are the two activities whose mean importance exceeds mean skill the largest amount.

Table 4. Ranking of Largest Negative Mean Differences: Activities*

Activities	Mean Differences
1. Provide Leadership	0.87
2. Identify Needs	0.81
3. Develop Plans	0.62
4. Public Relations	0.44
5. Fight for Money	0.37

* Results computed by subtracting the mean skill level from the mean importance.

3.0 Training Needs Suggestions

The responses to the four open-ended questions were analyzed by collating all replies to each question, and then examining the replies to discuss the number of different comments that were made. In addition, the number of persons making at least one comment for a question was also noted. All comments are found in Appendices B - E.

3.1 Community Resource Guide Development

Comments were made by about 50 respondents. Their full replies are repeated in Appendix B. Reactions to this topic fall into several distinct categories. Some respondents did not consider the topic a worthwhile one to pursue, principally because they reported already having a guide in hand. However, the majority were in favor of training in this area. Their interests lay in two areas. Some wanted assistance in the preparation of a guide, while others wanted help in getting it implemented. A few suggestions were made that the guide be prepared by external sources. Thus, it appears that training in Community Resource Guide development would be attractive to over half the respondents. The training should include "how to prepare" assistance, and "how to implement" assistance.

3.2 Needs Assessment

About three-fourths of the respondents indicated that needs assessment training was needed. However, their approval of the topic was often strongly qualified. (See Appendix C for full comments from 50 respondents.) For needs assessment training to be well-received, it should be practical, useful, specific and directive. Usable instruments should be provided that participants could take away and implement in their own setting. Basic, general reviews of needs assessment were not frequently endorsed. In fact, those who argued against needs assessment training often used the argument that they anticipated that their only exposure would be to such elementary in-service, and hence did not see that as useful.

3.3 Area-wide Intern Program

The comments for this question are given in Appendix D. Overall, it received only scattered enthusiasm as an in-service or training topic. A sizeable number of respondents reported that they were unfamiliar with the term at all. Others mentioned a variety of major stumbling blocks they perceived -- reduced staff levels, transportation, funds, etc. Only a few of the comments indicated a specific meaning for the term and approval for more assistance. It appears that the need for in-service or training is at the preliminary awareness stage, to disseminate the concept as perceived by MDE staff before attempting to convey more operational details.

3.4 Area-wide Job Placement/Job Bank

Comments to this question are found in Appendix E. Overall, this topic was received highly variably by the respondents. The desire for assistance was matched by individuals who felt that no emphasis should be given to the topic. Those who sought assistance mentioned the need for help in constructing an entirely new placement bank, or had requests tailored to problems specific to their currently operating system. Individuals who declined assistance cited reasons such as the existence of their own system or their participation in other systems, such as the Michigan Occupational Information System (MOIS). For this topic, it appears that highly specialized information is needed, tailored specifically to the problems that confront individuals, and ranging from basic to quite sophisticated needs.

3.5 Responding to requests to four areas where training by MDE is under consideration, the persons who completed this study generally favored assistance in all four areas. However, their expressed needs differed between areas. For Community Resource Guide development, training should focus on how to prepare and implement the guide. Needs assessment training will be welcomed to the degree it provides direct, specific and immediately useful results. Training on intern programs should focus on the basic principles, benefits, and expectations underlying the basic concept. Finally, job placement/job bank training should be preapred in such a way that it can be adapted to rather heterogeneous needs.

4.0 Network Analysis Results

4.1 The respondents were asked to complete a portion of the questionnaire dealing with the frequency of their interaction during the previous six months with the individuals whose names were provided to the contractor. There were 74 persons on the list. The interaction topics dealt with "my job," "career education" and "CEDISS." The instrument asked for an estimate of their frequency of interaction on each topic in the past six months.

Since about three-fourths of the respondents named on the network questionnaire completed the instrument, all communication links reported were used in the analysis, rather than reciprocated links only. This enabled

an estimation of the importance of the 13 missing individuals in the overall network. This reduces the reliability estimated for any single link, but is more likely to maintain the overall pattern of interaction.

4.2 The results of separate analyses of the communication networks for "my job," "career education," and "CEDISS" are presented below in Table 5. In general, the results show that a large proportion of these individuals are linked together by their communication patterns. In contrast, the 1976 results showed networks that were much less well-linked.

Table 5. Network Summary

Role	My Job	Career Education	CEDISS
Group Members	43 + 17	69	71
Liaisons	7	0	0
Bridges*	34 + 17	--	0
Others	3	2	0
Isolates	4	3	3

* Bridges are group members, and hence are not included in column totals (N = 74).

4.3 Individuals are assigned different roles as a result of their interaction patterns. Dense clusters of links become groups. Single individuals linking groups are called liaisons since they provide a means by which information may be exchanged between two groups. Certain group members are linked to other group members in other groups, and are referred to as bridges. Other persons have no links and are referred to as isolates.

4.4 In the "my job" network two groups were identified. One had 43 members and the other had 17. There were seven individuals who served as liaisons -- connecting the two groups but not formally a member of either. The two groups were also heavily connected by links between group members (bridge links). Consequently, while there was some distinctive grouping among the 74 persons, the overall pattern is one of reasonably frequent linkages.

4.5 The networks for "career education" and "CEDISS" were undifferentiated, i.e., almost all respondents belonged to one large grouping. This suggests there are fairly extensive patterns of connection among the respondents, but there is not sufficient structure to indicate the presence of some members who play central roles in passing information to and from others.

4.6 There were a small number (3-4) of isolates (persons who named no one else, and vice-versa) in the three networks.

5.0 Recommendations

The recommendations will focus on the training and in-service needs of the CEPD coordinators.

5.1 The job perception analysis provides several suggestions for training needs analysis. If "need" is operationally defined as an activity where an assigned importance level exceeds by some margin the skill level that is assigned, then "identifying needs" and "provide leadership" are the two major areas to consider.

Interestingly, both topics were important in 1976 as well. Some workshops on needs analysis and some generalized leadership training were provided. But personnel turnover, changing needs, and the passage of time have contributed to the persistence of these needs.

5.2 Another training need indicated in the activities analysis is regulation. It has become relatively more important in the past three years. The topic suggests that training on the content and interpretation of existing and proposed regulation impacting Career Education is warranted.

5.3 The training suggested by the respondents in the area of Community Resource Guide development, needs assessment, intern program, and job placement/job bank is detailed in Section 3, and summarized in 3.5. The respondents' comments indicate a willingness to participate in training in each of these areas, provided it is structured appropriately.

5.4 The network analysis results suggest that CEPD coordinators lack an emergent structure of linkages that would make efficient introduction and dissemination of information possible. At present, there do not appear to be key "entry points," i.e., individuals who offer rapid access to others by virtue of the connections the individual has.

Thus another training/in-service possibility is in the area of group process and team-building. Activities could be developed to provide CEPD coordinators with regularly exercised opportunities to interact, exchange information related to career education, and assist one another in the solution of relevant problems.

High/Scope Educational Research Foundation
Evaluation of the Michigan Department of Education's Project CEDISS
(Career Education Dissemination)

A REPORT ON THE RESULTS OF HIGH/SCOPE'S
FINAL SITE STATUS SURVEY

July 20, 1979

Prepared by:

Arthur Granville
Mary Morris

This report was prepared under subcontract to the Michigan Department of Education, Project CEDISS (Philip Hawkins, Project Director, David Lowman, Project Manager). Activities of Project CEDISS are performed pursuant to Contract Number 400-76-0093 of the National Institute of Education. However, the contents of this report do not necessarily reflect the views of either MDE or NIE.

High/Scope Educational Research Foundation

Project CEDISS Evaluation

A REPORT ON THE RESULTS OF HIGH/SCOPE'S FINAL SITE STATUS SURVEY

July 20, 1979

Background

High/Scope, in its evaluation support role under Project CEDISS, administered a Site Status Survey approximately once per school quarter from fall, 1977 until spring, 1979. The final survey in this series was of special significance, since it asked participants to look back on their experience and draw some last conclusions about the project. This report presents the results of the survey. The actual survey form is attached as Appendix A.

The Survey Sample

In mid-May 1979, just as the school year was coming to a close, the final Site Status Survey was sent to key participants in each of the 47 current CEDISS sites. "Key participants" included each site's CEPD and site coordinators and any other individuals who had been named earlier by the coordinators as playing significant managerial or oversight roles in the project. (In one site, for example, the curriculum coordinator for the local district was named as a third key participant.) Altogether, the surveys were mailed to 106 individuals at the 47 sites. A follow-up mailing was made in late May to those who had not yet responded to the first mailing. By early June, replies had been received from 89 of these individuals--84% of all survey recipients. The analyses reported here are based upon the responses of this sample of 89.

Design of the Survey

The object of the survey was to gain a retrospective view of CEDISS from these veterans of the project. Since it was sent out at the end of the year, a busy time for school people, the survey was kept to three pages in order to minimize response burden. The questions addressed two main areas of interest: (a) the effectiveness of the various resources that MDE had made available to CEDISS sites as they carried out their projects (questions 1-3) and (b) the effectiveness of the local project itself, in terms of its impact on school problem-solving and on the use of educational products (questions 4-6).

Results[1]

Respondent Profile

The survey asked each individual to categorically identify his or her main professional role outside of CEDISS. Figure 1 shows the distribution of responses. Also shown in Figure 1 is the breakdown of respondents by CEDISS function (CEPD coordinator/site coordinator/other). The role most heavily represented is that of ISD Vocational-Technical Specialist (29% of all respondents placed themselves in this category). ISD Career Education Coordinator is next (15%). Virtually all CEPD coordinators identified one or the other of these two categories as representing their main professional role. Site coordinators, however, are more diverse. They may be principals, teachers, counselors, or local district personnel. No more than 14% of the respondents fell into any one of these categories, but overall, those with roles defined at the local level outnumbered those at the ISD level, 53% to 47%.

Site coordinators constituted 50% of the total sample, CEPD coordinators, 42%, and others, 8%. This means that site coordinators were somewhat more conscientious about responding than their CEPD counterparts, since if all survey recipients

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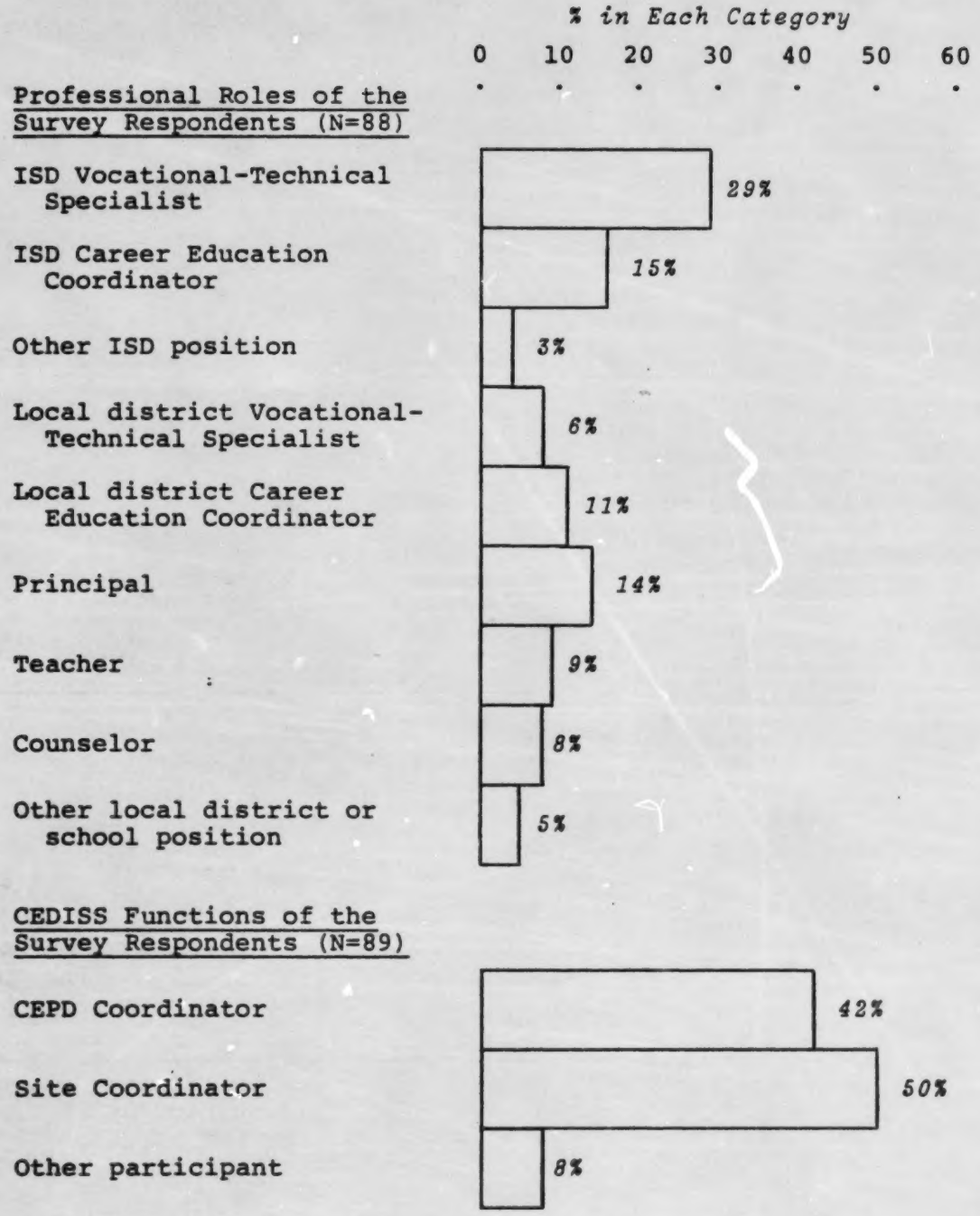
[1]Not all respondents answered all the questions in the survey. The number responding to each question is shown in adjacent parentheses in the attached figures. The percentages given in the figures represent <u>percentage of all those responding to the particular question</u>. Thus the percentages always sum to 100, even if a given question was not answered by everyone.

Figure 1


% in Each Category
0 10 20 30 40 50 60
Professional Roles of the Survey Respondents (N=88)
ISD Vocational-Technical Specialist
29%
ISD Career Education Coordinator
15%
Other ISD position
3%
Local district Vocational-Technical Specialist
6%
Local district Career Education Coordinator
11%
Principal
14%
Teacher
9%
Counselor
8%
Other local district or school position
5%
CEDISS Functions of the Survey Respondents (N=89)
CEPD Coordinator
42%
Site Coordinator
50%
Other participant
8%

had answered, the two groups would have been equal in size. No significant differences were found among people from these different groups in the answers they gave to the main questions posed in the survey. Thus in the following analyses no distinctions are made among categories of respondents.

Question 1: Degree of Need for Outside Help at Each Step in the Problem-Solving Process[1]

Respondents typically report that they need only "a little" outside help to accomplish three of the six steps in the problem-solving process: identifying goals, defining specific needs, and implementing the products or solutions selected. "A fair amount" of outside help is required for the other three steps: searching for a product/solution, selecting among the products/solutions found, and evaluating the product/solution implemented. On the basis of the results pictured in Figure 2, it seems safe to say that CEDISS sites feel the greatest need for help in undertaking a search for products: 84% of all respondents desire "a fair amount" or "a lot" of assistance in that.

Question 2: Degree of Need for the Resources that Have Been Provided Under CEDISS

Those answering said that if they were beginning the problem-solving process again, they would want more training (both on site and at outside workshops), more products to choose from, and more time to complete the project. They would want about the same amount of consultation with MDE staff, with others hired by MDE, with ISD staff, and with local district staff. In regard to the amount of funds required, half said that they would need no more than they had this time; but 20% said they'd need "a little more" and fully 30% said they'd need "a lot more."

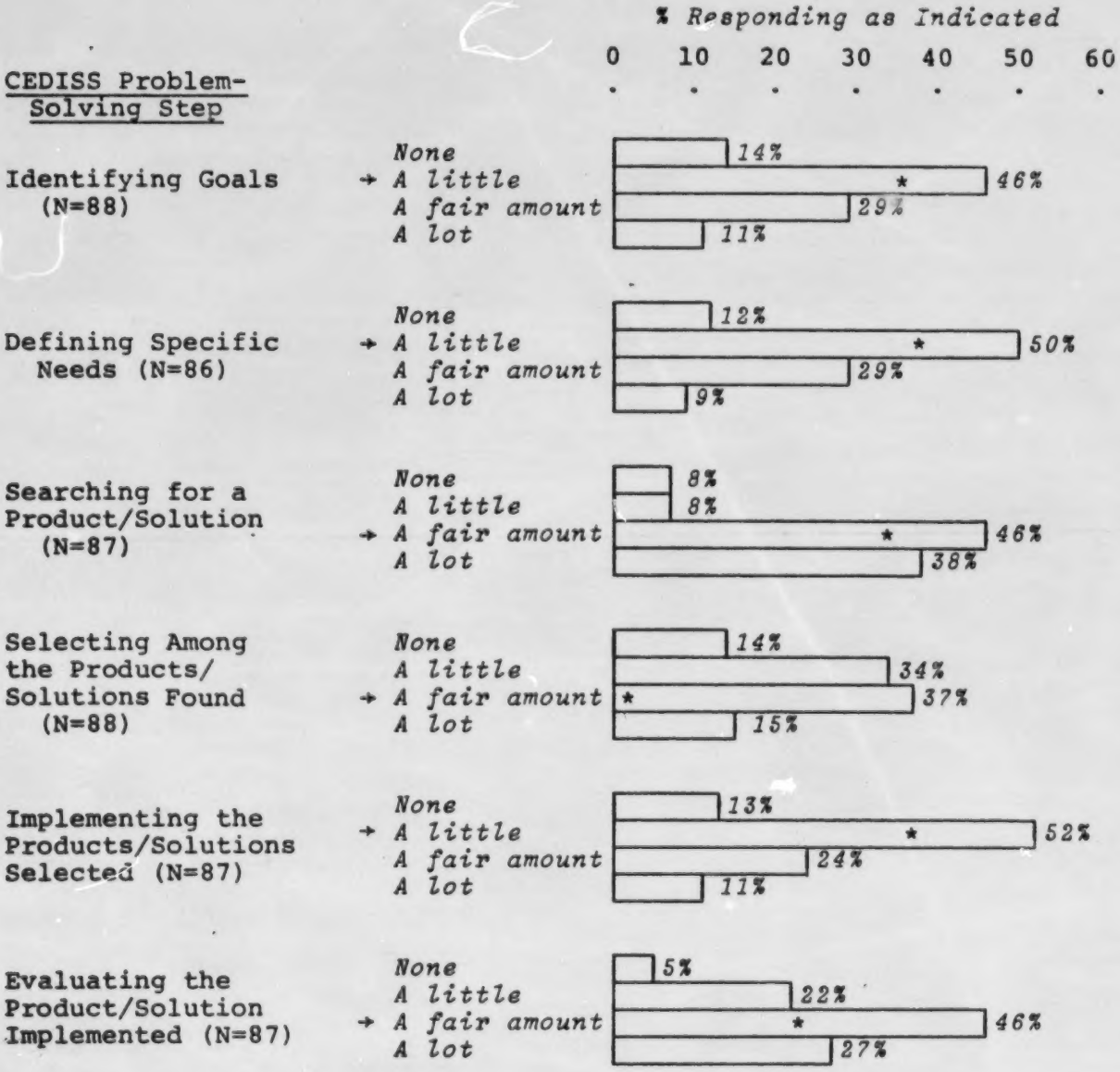
An examination of Figure 3 shows that the two most prominent needs reported are for training on site (25% would ask for "a lot more") and for curriculum products (30% said "a lot more").

---

[1]The median response to each of the questions in the survey is marked in the figures by an asterisk. The asterisk is placed at the point dividing the lower 50% of all respondents from the upper 50%. For practical purposes, the answer given by the median respondent may be taken as the "typical" answer to that question. This typical answer is indicated in the figures by an arrow (→).

Figure 2

Question 1: SUPPOSE YOUR SITE WERE JUST NOW BEGINNING THE CEDISS PROBLEM-SOLVING PROCESS. HOW MUCH OUTSIDE HELP (FROM MDE OR ELSEWHERE) WOULD YOU WISH FOR AT EACH STEP?

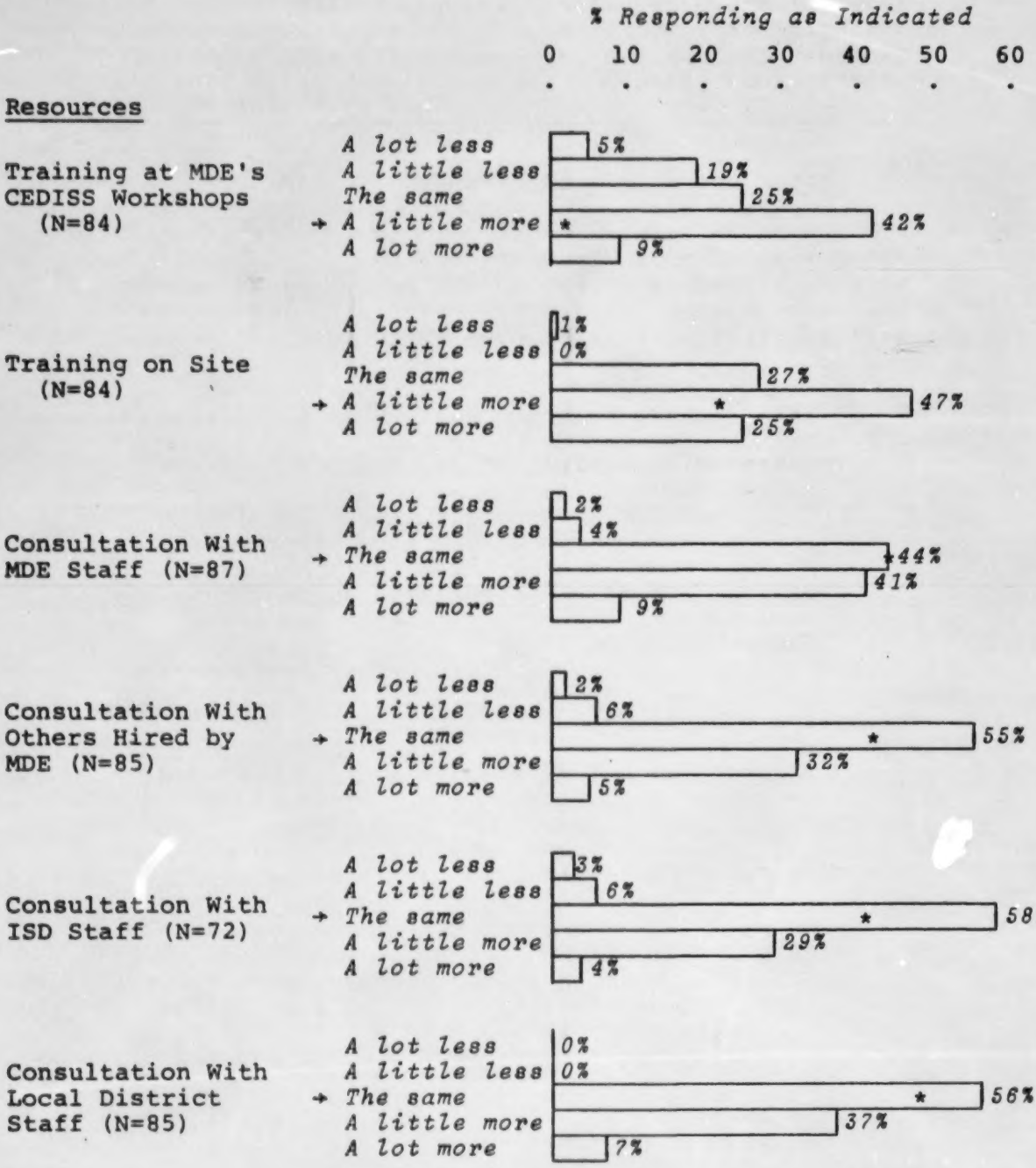


*Median case

→ Category containing the median case

Figure 3

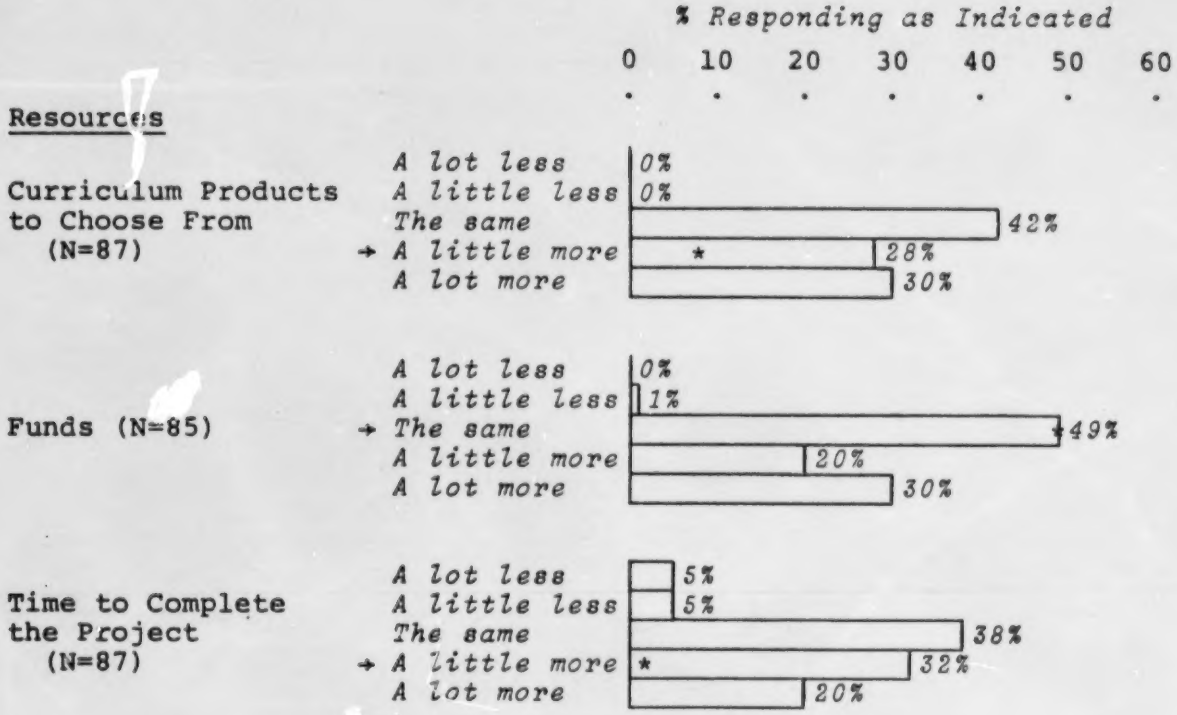
Question 2: IF YOUR SITE WERE BEGINNING THE PROBLEM-SOLVING PROCESS AGAIN, WOULD YOU WANT MORE OR LESS OF THE FOLLOWING RESOURCES THAN YOU ACTUALLY HAD?


% Responding as Indicated
0 10 20 30 40 50 60
Resources
Training at MDE's CEDISS Workshops (N=84)
A lot less 5%
A little less 19%
The same 25%
→ A little more * 42%
A lot more 9%
Training on Site (N=84)
A lot less 1%
A little less 0%
The same 27%
→ A little more * 47%
A lot more 25%
Consultation With MDE Staff (N=87)
A lot less 2%
A little less 4%
→ The same * 44%
A little more 41%
A lot more 9%
Consultation With Others Hired by MDE (N=85)
A lot less 2%
A little less 6%
→ The same * 55%
A little more 32%
A lot more 5%
Consultation With ISD Staff (N=72)
A lot less 3%
A little less 6%
→ The same * 58%
A little more 29%
A lot more 4%
Consultation With Local District Staff (N=85)
A lot less 0%
A little less 0%
→ The same * 56%
A little more 37%
A lot more 7%

*Median case

→ Category containing the median case

Figure 3
(continued)


% Responding as Indicated
0 10 20 30 40 50 60
Resources
Curriculum Products to Choose From (N=87)
A lot less 0%
A little less 0%
The same 42%
→ A little more * 28%
A lot more 30%
Funds (N=85)
A lot less 0%
A little less 1%
→ The same 49%
A little more 20%
A lot more 30%
Time to Complete the Project (N=87)
A lot less 5%
A little less 5%
The same 38%
→ A little more * 32%
A lot more 20%

*Median case

→ Category containing the median case

Question 3: Usefulness of Resources that Were Provided Under CEDISS

There were no strong distinctions made among the resources inquired about here. All were judged "fairly" useful by the typical respondent, as can be seen in Figure 4. A few weak distinctions are apparent, though: Workshop 1 and High/Scope staff consultants were rated somewhat less useful than most other resources while Workshop 3 and MDE staff consultants were rated somewhat more useful.

Question 4: Endurance of CEDISS's Effect on the Local Problem-Solving Process

As Figure 5 shows, 85% of all respondents affirm that CEDISS has had an effect on the process that people on site will follow in dealing with future needs. Respondents were asked to describe briefly any such effects. Their descriptions can be categorized as follows[1]:

provided a sequential planning process (26),

provided a framework for solving problems (9),

encouraged a team approach to solving problems (5),

brought about positive relationships between ISD and LEA (3),

identified needs (3),

provided an opportunity to learn from mistakes (3),

provided a useful checklist for reviewing products (2).

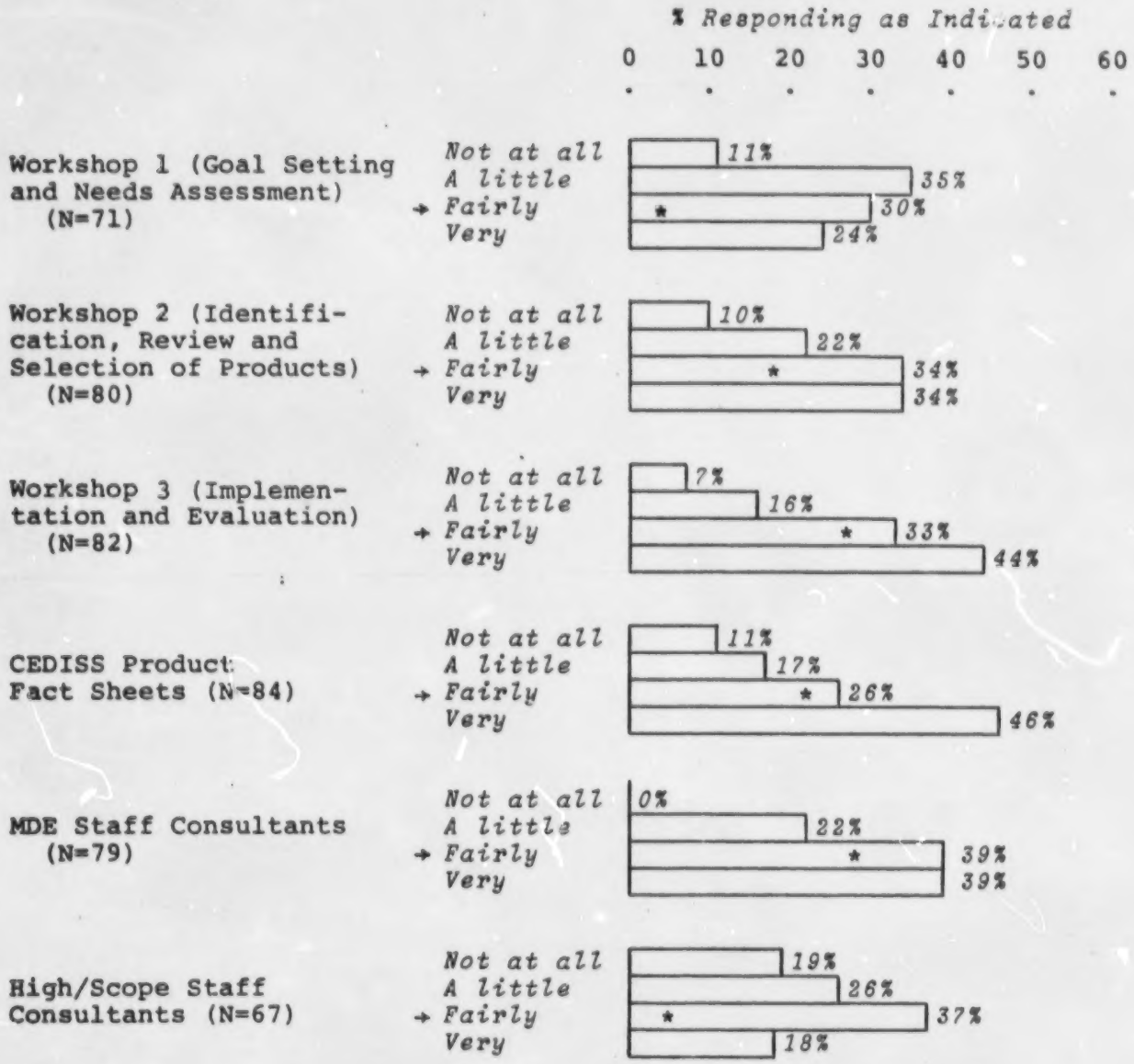
Question 5: Endurance of CEDISS's Effect on Local Use of an Educational Product

Only 7% of all those responding said that CEDISS had not yielded an enduring educational product. All the rest--93%--declared that it had (see Figure 5). The products described are too various to categorize, but this sample of comments conveys a sense of the responses:

[1]The numbers in parentheses refer to the number of individuals whose comments fall into each particular category.

Figure 4

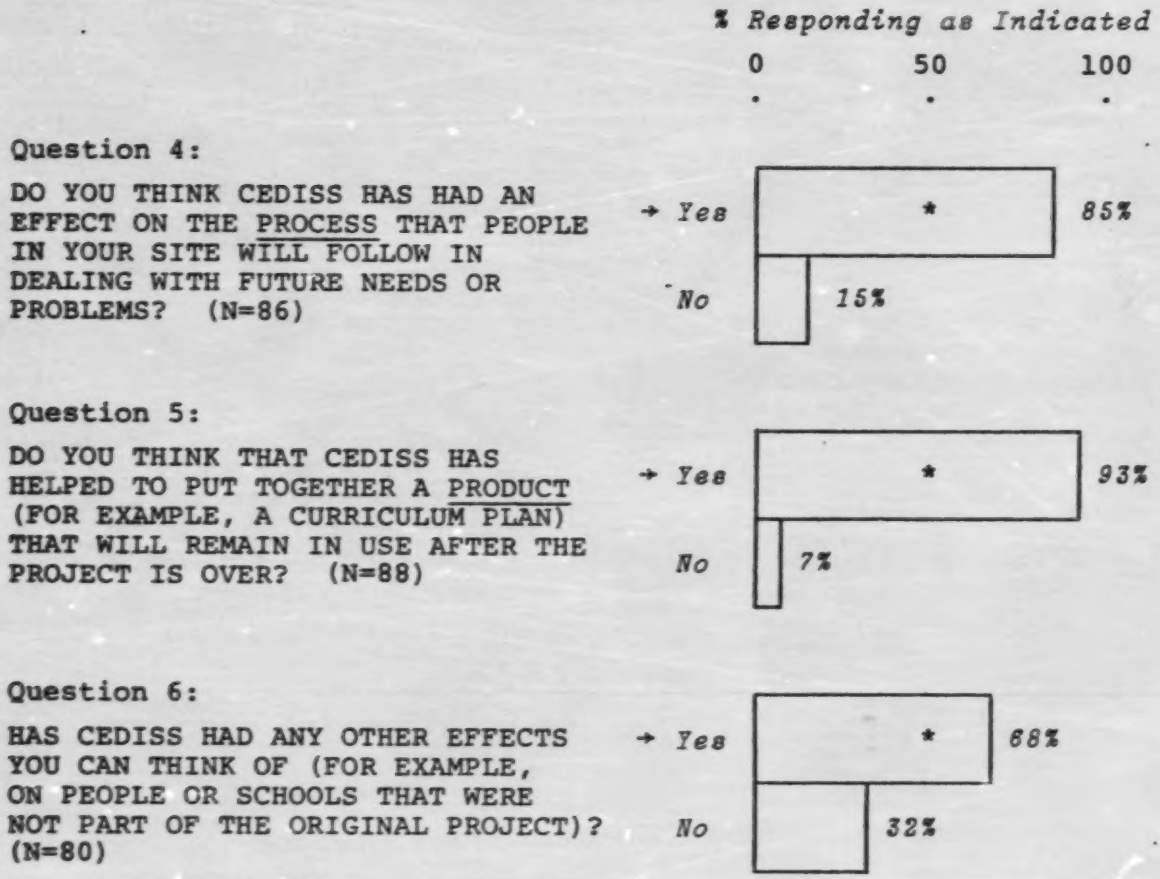
Question 3: HOW USEFUL WAS EACH OF THE FOLLOWING TO YOUR SITE'S PROJECT?



*Median case

→ Category containing the median case

Figure 5


% Responding as Indicated
0
50
100
Question 4:
DO YOU THINK CEDISS HAS HAD AN EFFECT ON THE PROCESS THAT PEOPLE IN YOUR SITE WILL FOLLOW IN DEALING WITH FUTURE NEEDS OR PROBLEMS? (N=86)
→ Yes
*
85%
No
15%
Question 5:
DO YOU THINK THAT CEDISS HAS HELPED TO PUT TOGETHER A PRODUCT (FOR EXAMPLE, A CURRICULUM PLAN) THAT WILL REMAIN IN USE AFTER THE PROJECT IS OVER? (N=88)
→ Yes
*
93%
No
7%
Question 6:
HAS CEDISS HAD ANY OTHER EFFECTS YOU CAN THINK OF (FOR EXAMPLE, ON PEOPLE OR SCHOOLS THAT WERE NOT PART OF THE ORIGINAL PROJECT)? (N=80)
→ Yes
*
68%
No
32%

*Median case

→ Category containing the median case

"The McKnight product we're using will be continued in 8th grade and expanded to 9th next year."

"The product we chose had successful results and we plan to incorporate it into next year's curriculum (on a voluntary basis though)."

"We will be using the ACT Career Planning program again next year with juniors."

"We are planning in-services in fall to help teachers gain skill in using materials we have gotten."

"A career education unit in English. Creation of a Career Resources Center."

"The career exploration and decision process and the employability skills process will become a part of our curriculum."

Question 6: Other Effects of CEDISS

Slightly more than two thirds of the respondents (see Figure 7) answered that CEDISS had produced effects other than those referred to in questions 4 and 5. Their descriptions of these effects can be reduced to:

other teachers in the building or district will use the materials/procedures (15),

other districts will use the materials/procedures (6),

others were made aware of career education (5),

community is more aware of career education and more involved in the curriculum (4),

school climate or teachers' enthusiasm was enhanced (4),

the site will be a demonstration site for the area/district (3),

school administrators are more positive toward career education (2),

people began to talk across academic disciplines (1),

another career education grant was obtained (1).

Respondents' Final Comments

The final question in the survey invited free-form comments of any sort on CEDISS. Here they are in synopsis:

overall, project was too slow to start up and get organized (15),

information was lacking on what the project was about and how to begin (4),

excellent, well-planned project by MDE (4),

project generally lacked organization (3),

project's timing was not synchronized with MDE's capabilities (2),

evaluation demands outweighed the activities evaluated (1),

needed more consistent contact between local sites, ISD, MDE (1),

involvement of several organizations (MDE, High/Scope, Abt) was confusing (1),

funding should have been distributed more equitably (1),

funding should all have been available at the beginning of the program (1),

there should have been fewer constraints on expenditures (1),

funding should have gone directly through local district (1),

too much was spent at the state level for administration and evaluation (1),

needed more information on fiscal accounting (1),

needed better fiscal control at the state level (1).

Summary

The Sample

Of the 107 survey recipients, 89 responded. This sample represents a large proportion of the CEPD coordinators, site coordinators, and other key participants who took part in CEDISS. The professional roles held by these individuals, beyond CEDISS, are diverse. In spite of this diversity, however, all groups were in close agreement on the issues posed in the survey. Thus the analyses reported here were based on the answers of all these respondents taken collectively.

Effectiveness of the Resources MDE Provided Under CEDISS

CEDISS participants report that if they were just beginning the project now, they would request particular help with three steps in the problem-solving process: searching for a product, selecting a product, and evaluating the final result. If they could have had more of any CEDISS resources, they would have given first preference to training (especially on-site training), products, and time to complete the project. It is notable also that while half of the respondents considered their funding adequate, the other half indicated a need for more funds--30% said "a lot more."

All the resources that CEDISS provided--at least all those listed--were judged "fairly" useful, with Workshop 3 (which emphasized implementation and evaluation) and MDE staff consultants rating somewhat higher than other resources.

Effectiveness of the Local Projects

A large majority (85%) of respondents said that CEDISS had produced some enduring change in the local problem-solving process. The examples cited are various, but prominently include adoption of a sequential planning process (e.g., needs assessment, problem definition, solution search, ...) and a shift toward greater collaboration.

An even larger majority (93%) reported that the products installed under CEDISS sponsorship would continue in use. In many cases, evidently, the products will be used differently in the future. In some instances, the product will be available

as a curriculum option to teachers, who then may or may not choose it. In other instances the product will be used at grade levels where it has not been used before. In still other instances the product materials will constitute a reference library that will remain available to those interested. These examples only begin to suggest the ways in which the future use of these products may depart from their original use under CEDISS.

Finally, 68% of the respondents affirmed that there were effects of CEDISS beyond the preceding. In general, these were "spin-off" effects, involving the spread of CEDISS's influence to teachers, schools, or districts beyond the original arena of the project.

Conclusions

Considering the respondents' emphatic need for products, one might expect the CEDISS Product Fact Sheets to have been rated more highly than they were. The probable explanation, suggested by respondents' notes, is that the Fact Sheets came along after many sites had already selected their product. The Fact Sheets would clearly have been judged more useful if their delivery had been more closely synchronized with sites' needs. Judging by other comments, better timing at the state level would have enhanced the value of many of the other resources that were offered, especially for the more advanced sites that needed assistance early in the project. Below, this conclusion and others are restated with an eye toward management of future programs like CEDISS.

Need for Strategic Training

Participants feel they need more help at some stages than at others--particularly in searching for products and evaluating their projects. They require training to carry them through these steps, and would probably prefer the training to be provided on site rather than in centralized workshops.

Timely Provision of Resources

The resources that the state provides (such as products and training) are of greatest value at the moment when a site needs them. This means that the state must aim to develop its resources in time to be ready for the earliest-blooming sites. It can do this either by hastening the resources or by delaying the bloom.

Need for Sustained Intervention at Critical Points

Although respondents expressed a considerable need for evaluation support, very few sites accepted High/Scope's repeated earlier offers of such support. What this suggests is that participants cannot always be expected to take strong initiative in seeking the resources their projects require. Perhaps the state should intervene actively to provide support at critical points like these. Of course, this is just what the state did in organizing Workshop 3, but even so, many sites have still not followed through on evaluation of their projects. It may be that more sustained support and closer monitoring is necessary.

Accomplishment of Change by Increments

The survey indicates that the great majority of participants in CEDISS feel that the project made a positive and enduring contribution to school practice. In general, this contribution is not revolutionary but incremental--making things a little bit better than they were before. It follows that kindred future projects are likely to add their own enhancements to school practice, especially if they attend to the lessons conveyed by the CEDISS experience.

CAREER EDUCATION DISSEMINATION (CEDISS)
Project Site Reports

Report 1: Summary of Projects and Implementation Evaluation Results

SUBMITTED TO:

Project CEDISS

Michigan Department of Education

PREPARED BY:

Eric M. Gordon, Ph.D.
Project Evaluator

Jeffrey T. Resnick
Evaluation Consultant

Sandra K. Meacham
Evaluation Consultant

September 30, 1979

CEDISS REPORT

PREFACE

The primary purpose of the Michigan Department of Education CEDISS project (Career Education Dissemination) funded by the National Institute of Education was to disseminate research and development projects in career education to local education sites. The first step taken to accomplish this purpose was to identify career education products available for use by November 1978. A total of 150 career education products were located and reviewed by the Office of Career Education, Michigan State Department of Education. A fact sheet was developed for each product reviewed. This fact sheet contained a description of the product, a report of the extent to which the product was biased, evaluation or research outcomes, and cost of the product. In addition to developing fact sheets for each product, samples of 150 products were placed in the Michigan State Library to facilitate a "hands-on" review by interested local site staff. An example of the fact sheet is provided in Appendix A.

The Michigan CEDISS project deals exclusively with career education and was concerned with assisting local sites in the identification of their career education needs and a possible solution to these needs. Using criteria established by CEDISS, CEPD (Career Education Planning District) nominated sites with needs in the area of instruction, guidance, and/or placement. A total of 46 sites were funded to receive CEDISS assistance. Each site selected was to clearly define its career education problems, select a career education product(s) from the 150 career education products reviewed by the State Department, and designate a plan to implement and evaluate the product. The Michigan Department of Education provided a series of workshops focusing on problem identification, product selection, and evaluation methodology.

At the request of the Michigan State Department of Education, three evaluation reports were prepared. Encompassed within the three reports were three objectives. Each objective corresponds to one of the reports. The first objective is to provide an overview or descriptive summary of the products selected for use by the CEDISS sites including topics such as: problem area addressed, methods of implementation, evaluative information, instrumentation used in the evaluation and, finally, a summary of the overall findings relative to CEDISS products in general.

The second objective, and the topic of the second report, is to provide an overview of the CEDISS project and the problem areas within career education addressed by the project. The problem areas have been divided according to the method used to solve the problem, i.e., whether the problem will be solved through instruction, guidance and counseling, or placement.

The third objective, and topic of the third report, is to provide a handbook for future users of programs such as CEDISS with guidelines to help the project staff design and implement a successful project.

Two primary sources of information were used to obtain information needed for the three reports. The first is the evaluation reports submitted by each of the sites. (These reports were available for forty of the forty-six sites.)

The second source of information was Carol Wolenberg, Educational Consultant to the CEDISS project. Carol Wolenberg provided information concerning her experiences with the CEDISS projects as well as documents produced by the Office of Career Education which contained information relative to the three objectives just stated.

The first of the three reports comprises this document. The second and third reports may be found bound together in a separate volume. The evaluators would like to thank Carol Wolenberg and the Michigan State Department of Education, Office of Career Education for the information and help provided in the writing of this report.

Finally, a brief summary of the products used is included in the first report as Appendix B. Included in Appendix B is information relative to schools using the product, evaluation results, and costs.

Report 1: CEDISS Product Summary

A total of 46 different sites participated in the CEDISS program. Of those 46 sites, however, the evaluator was sent product summaries from only 40 of the sites (86.9%). The 40 sites used a total of 30 different CEDISS products. Counting products used more than once, the 40 sites utilized a total of 51 products. These products address a wide range of concern in the area of career education. In order to more fully describe the CEDISS products, information will be presented in three major areas:

1. Product description
2. Product implementation
3. Product evaluation

Within each of these three areas, data are summarized across all 30 of the products.

A. Product Description

In order to obtain complete descriptions of the types of products used, it is necessary to discuss several topic areas. These areas are:

1. Type of product developer, i.e., local state, federal or commercial;
2. Problems addressed by the products;
3. Methods used for implementing the products;
4. Range of product costs; and
5. Intended product outcomes.

The remainder of this section will be broken down into these categories:

1. Type of Developer: As stated previously, 30 different CEDISS products were submitted to the evaluator for analysis. Table I provides a breakdown of the developers of the 30 products.

Table I: Type of Developer

Developer Type	Number	Percent
State	6	20.0
Federal	4	13.3
Commercial	20	66.7
	Number = 30	100%

Table I indicates that the greatest number of products used by the CEDISS sites were developed and marketed by commercial publishing companies. Two-thirds of the 30 products came from this source. Six (20%) of the products were developed through state programs. The remaining 4 (13%) products were

developed through direct federal funding. Although all of the products met the Project's criteria regarding evaluation history and freedom from bias, the ten funded through federal and state programs are considered the result of research and development efforts.

2. Problem Area Addressed: An analysis of the problem areas addressed by the products revealed that many of the products addressed more than one problem area. The most common areas addressed by the products examined were self awareness, awareness of others, and career awareness.

Table II provides a listing of the problem areas addressed. It should be noted that since a single product may address more than one problem area, figures presented in Table II represent the number and percentage of reports that address each problem area in whole or in part.

Table II: Subject Areas Addressed by Projects

Subject	Number	Percent
Self-Awareness/Awareness of Others	15	30
Career Awareness	8	16
Decision-Making/Career Planning	4	8
Interpersonal Skills	5	10
Reading Skills	4	8
Life Role Awareness	3	6
Reduction of Sex Role Stereotyping	2	4
Problem Solving Skills	1	2
Career Exploration	1	2
Physical Fitness/Health	1	2
Goal Setting	1	2
Interdependence of Jobs in Society	1	2
Transfer of Learning from School to Job	1	2
Attitudes Toward Work/Self and Others	1	2
Leisure Time and its Relation to Career Exploration and Decision Making	1	2
	Number = 50	100%

Table II shows that the problem areas addressed by the CEDISS products can be grouped into 15 different areas. These areas represent a myriad of topics enabling a school to use the products to assist them in a variety of career education problems.

Table II also indicates that the four most commonly addressed problem areas, i.e., self awareness and awareness of others, career awareness, decision making and career planning, and interpersonal skills accounted for sixty-four percent of the problem areas addressed by the 30 different products. This indicates that the products chosen by the CEDISS sites emphasize these skills as important aspects of career education.

3. Implementation: A majority of the products examined were implemented primarily through teacher instruction, discussion, and student workbook activity. The variety of implementation methods used is indicated in Table III and reflects the diversity of the career education materials available to Michigan schools through the CEDISS programs. Again, it should be noted that a single product may have used more than one implementation method. The percentages indicated in the table represent the percentage of products which used each of the implementation methods either as the only method of implementation or in conjunction with another or additional methods of implementation.

Table III: Methods of Implementation

Method	Number	Percent
Classroom/Teacher Instruction	28	45.2
Discussion	10	16.1
Workbook Type Activities	7	11.3
Audio/Visual Presentation	8	12.9
Resource Utilization	3	4.8
Student Self-Instruction	3	4.8
Student Use of Existing Service	2	3.3
Role Play	1	1.6
	Number = 62	100%

Table III indicates that the predominate method of implementation was classroom teacher instruction. This accounted for about 50% of all implementation methods used. Following classroom teacher instruction, the most commonly used method of implementation was discussion groups resulting from classroom activities. The fourth most commonly used method of implementation was the use of the audio-visual equipment. This category might include methods such as presenting a filmstrip, listening to an audio cassette, or watching a television program.

4. Materials Used: The CEDISS product reports identified various types of materials used in the implementation of the products. Very few of the products used only one type of the material, e.g., workbooks, filmstrips, etc. Table IV identifies the type of materials used for those products for which this information was available. Once again, it should be emphasized that the percentages reported represent the percentage of products utilizing each material type whether as the sole material used or as one material used in conjunction with one or more additional materials.

Table IV: Materials Used in Conjunction With CEDISS Products

Material	Number	Percent
Teacher's Guide (More than Directions: Resources, Suggested Activities, etc.)	19	29.7
Audio/Visual Aids	16	25.0
Texts/Pamphlets	12	18.8
Workbooks	10	15.6
Tests Provided with Product	3	4.6
Ditto Masters	2	3.1
Puppets	1	1.6
Games	1	1.6
	Number = 64	100%

Table IV indicates that the four most commonly used materials were teachers' guides (containing more than just directions to the teacher), audio or visual aides, tests, and pamphlets or workbooks. These four material types accounted for 89.1% of all materials used.

5. Cost of CEDISS Products: One strong point of Career Education materials made available by the Michigan Department of Education is low cost of a large portion of products. Approximately 58% of the products were priced at one hundred fifty dollars or less. This means that money saved on materials could be used in other areas of the CEDISS project.

Table V is a summary of the cost of CEDISS products broken down according to an arbitrarily assigned cost range. The data presented in Table V are based on the 24 product reports which presented cost information. Six of the products (approximately 20%) did not report any cost information at all.

Table V: Cost of CEDISS Products

Cost Range	Number	Percent
$1 - $10	3	12.5
$11 - $25	2	8.3
$26 - $50	4	16.8
$51 - $100	3	12.5
$101 - $150	2	8.3
$151 - $200	5	20.8
$201 - up		
	Number = 24	100%

It should be noted that the majority of prices were dated 1978. Although the prices of many of the products may have increased, the evaluator asserts that the ranges of product costs and distributions within these ranges have not been altered significantly within the span of one year.

6. Intended Product Outcomes: The stated product outcomes of the products used at the various CEDISS sites corresponds very closely to the second section of this report titled Subject Areas Addressed by Projects. While section two dealt with the generic problem areas of each of the project sites, section six deals specifically with the intended impact on students of the product used.

Table VI is a summary of the intended product outcomes of those products for which this information was available. When reading Table VI, it is important to note that one product may have several different outcomes. For example, a product may intend to improve self-awareness while at the same time hope to improve not only the career awareness of the student but also his or her capacity to engage in a formal decision making process. The percentages, therefore, represent the percent of products which address this outcome as the sole outcome of the product or as one of several outcomes of the product.

Table VI: Intended Product Otucomes

Outcomes	Number	Percent
Improved Self-Awareness	18	30.0
Improved Career Awareness	10	16.7
Improved Decision-Making	7	11.6
Job Seeking/Employability Skills Acquisition	4	6.6
Integration of Self and Society/Family	4	6.6
Improved Reading Skills	4	6.6
Job Related Information Acquisition (tax forms, etc.)	2	3.3
Better Able to Set Goals	2	3.3
Reduced Career Sex-Stereotyping	1	1.7
Problem-Solving Skills	1	1.7
Communication Skills	1	1.7
Human Interactions Skills	1	1.7
Learn About Physical Fitness/Health	1	1.7
Awareness of Varying Roles in Society	1	1.7
Understanding of Job Satisfaction Role	1	1.7
Familiar with Concept of Change	1	1.7
Recognition of Role of Leisure Time	1	1.7
	Number = 60	100%

As shown in Table VI the three most commonly intended outcomes are improved career awareness, improved self awareness and improved decision making skills. Almost all the products touched on at least one of the three outcomes. These three areas, as judged by the schools selecting products, are the three most important in helping the students make the best career choice. The reader should also note the array of intended outcomes of the products as listed in Table VI. This array is testimony to the versatility of the products selected by the participating CEDISS sites. This versatility enables CEDISS projects to adapt themselves to the individual community needs of the community each school serves.

In addition to the three most common impact areas, two other intended outcomes warrant special attention. The first is job seeking or employability skills acquisition, such as, filling out an employment application, how to act in an interview, the questions to expect in an interview, how to interpret a want ad, and how to keep a job once secured. As with the three most common product outcomes, this outcome is of high value to a student preparing to seek employment and the use of such materials should be encouraged.

The second skill area worthy of special mention is that of reading skills. Four of the products had, as part of the intended impact of the product, the improvement of reading skills. The products intended to improve reading skills did so by providing levels of the product geared to different reading levels. Students may, for instance, read about a worker's perception of his or her job. Upon completion of this story, the student will be given a new story at a higher reading level. The intent is that as the student becomes involved in what he or she is reading, the increased difficulty of the reading level will help the student to improve his or her level of reading. The combination of improved career awareness with additional skills such as reading is another strong point of the CEDISS program. Again, the inclusion of basic skills such as reading within the programs such as CEDISS should be expanded in the future.

7. Grade Levels Addressed: The final information presented to describe the career education products is the grade levels to which the products are targeted. It was found that many of the products, especially through education curriculum packets, were intended for use across the elementary, middle, and secondary curriculum rather than a specific grade as some of the products were. The data collected are summarized in Table VII. The data in this table indicate the percentage of products which were targeted in whole or in part at each of the grade levels listed.

Table VII: Target Grade Levels of Products

Range	Number	Percent
Preschool	1	1.5
Kindergarten - Fifth	20	30.3
Sixth - Eighth	28	42.4
Nineth - Twelfth	17	25.8
	Number = 66	100%

Table VII indicates that the majority of the products were implemented at the middle school level and below (74.2%). The data presented indicate the spread of products covered sufficient range to meet the career education needs at all levels of education. Again, this is found to be a strong point of the CEDISS program. The use of career education materials at the elementary and middle school level was shown to be effective by many of the programs. CEDISS should be commended for providing a range of products which helps the development of career awareness by students at the middle school level and below.

B. Types of Implementation

Several factors influence the implementation of any program. A review of the CEDISS product summaries indicated that the factors important to CEDISS implementation could be categorized according to the following labels. Level of the site, i.e., classroom, building, district, I.S.D., number of products used per site, duration of product implementation, i.e., number of weeks, teacher training requirement prior to product implementation, and finally the curricula into which the product was implemented. Information will be presented within each of these categories to provide an overview of the implementation of the products that were involved in the CEDISS program. This overview will in turn provide the reader with an accurate description not only of implementation methods, but also of the time commitment and training commitment needed to successfully implement CEDISS products in general.

Section One: Level of Site

There are several levels at which any of the products examined may be used. These levels are either the classroom level which would indicate that one teacher was in charge of implementation of the product; the building level where two or more teachers may be responsible for implementation; the district level where several buildings are involved in implementation of the product; or the I.S.D. level where several districts are involved in the implementation of the product. Table VIII summarizes these data.

Table VIII: Level of Implementation

Level	Number	Percent
Classroom	7	18.9
Building	23	62.2
District	5	13.5
I.S.D.	2	5.4
	Number = 37	100%

The data presented in Table VIII are based on 37 of the 40 sites for which this information is available (92.5%). As shown in Table VIII the majority of the products were implemented at the building level. Again, the definition of building level was more than a single classroom involved in implementation. Often this was because the product was targeted at more than one grade level or because several classrooms were being used on an experimental basis to determine if the product was to be implemented at expanded levels in the future. The relatively small number of products which were implemented at the I.S.D. level or the district level reflect the fact that the CEDISS program was targeted at local schools. Again, this was a strong point of the CEDISS program as it provided CEDISS the opportunity to help schools with a career education program that was best suited to the needs of the community which the school serves.

Section Two: Number of Products Used Per Site

The majority of sites involved in the CEDISS program (65%) used only one CEDISS product. This means that 35% of the sites used two or more products. Only 5% of the sites used six or more products. The two sites using six or more products had chosen as their project setting up a complete career education resource center for use by the entire school or district. One such site has in their possession over 30 products. The most limiting factor in the number of products which one site could use was the available staff time to implement the career education program. In those districts where resource centers were planned or curriculum packages were being implemented, sizeable amounts of staff time were utilized. In districts where this amount of time is not available, only one or two products can be considered for implementation.

Table IX indicates a breakdown of the number of products used per site. It should be noted that only six sites or 15% of the total number of sites involved used three or more products. In the case of those schools using the Coloma Curriculum Developing Package developed by the Coloma Public Schools, Coloma Michigan, a great deal of staff time was needed as the implementation was on the K-6 level. Seven schools were involved with the use of the Career Development Curriculum Package and these seven schools have been included in the category of one product used per site as the Coloma project was one product.

Table IX: Number of Products Used Per Site

Number of Products Used	Number	Percent
One	26	65.0
Two	8	20.0
Three	2	5.0
Four	2	5.0
Five	0	0.0
Six or More	2	5.0
	Number = 40	100%

Section Three: Duration of Product Implementation

Several levels of product implementation were examined. The category encompassing the greatest amount of time is the number of weeks of implementation. Where possible, information on number of implementations per week and the length of the implementation was also collected. This information was collected to provide an overall idea of the time invested by the schools in the career education program. Table X provides information concerning the duration, weeks or months, of product implementation. Although several sites may have used the same product, it was often the case that different schools may have used the same product for different periods of time. Thus, the data are provided by site for each product. Table X is a summary of these data.

The data were calculated on 47 of the 51 sites that provided the information concerning the duration of product implementation (92.2%).

Table X: Duration of Product Implementation

Weeks/Months	Number	Percent
Less than one week	5	10.6
One to three weeks	3	6.4
Four to six weeks	4	8.5
Seven to nine weeks	11	23.4
Ten to twelve weeks	11	23.4
Four months	9	19.2
Eight months	2	4.3
One year	1	2.1
Continuous: used in Self Directed Activities at Times of Student Choice	1	2.1
	Number = 47	100%

Table X shows that approximately half of the products were implemented for a period of nine weeks or less with 72.3% of the products being implemented for 12 weeks or less. This translates into the fact that roughly 3/4 of the products were implemented for a period of one half year or less. Relatively few products were implemented longer than five months or less than one week. Those products that were adopted for a period of longer than five months were products which presented an entire curriculum package to be integrated into the current curriculum. Those products being implemented less than one week were usually "one shot" programs designed particularly to be used over a short period of time.

Of the 47 product reports that contained information regarding the duration of product implementation, 25 presented information regarding the number of implementations per week (53%). It was found that over half of the products that reported this information used the career education product only one time per week. The next largest number of implementations per week was the use of the product on a daily basis of five times per week. Table XI summarizes the information collected regarding the number of implementations per week of the products who reported this information. Further investigation into the question of implementation of products revealed that of the 25 product summary reports that did have implementation information concerning the number of implementations per week of the product, 16 of those or 64% presented information concerning the length in minutes of each product implementation. The overwhelming majority (91%) indicated that implementation occurred for sixty minutes or less each time the product was used with 47% indicating that the implementation lasted thirty minutes or less.

Table XI: Number of Implementations Per Week

Number of Implementations/Week	Number	Percent
One	13	52.0
Two	2	8.0
Three	2	8.0
Four	1	4.0
Five	7	28.0
	Number = 25	100%

To summarize the product implementation information, it can be said that the average product or the product most commonly used by the CEDISS sites lasted for a duration of from 7 to 12 weeks, and was implemented on a once a week basis for thirty minutes or less.

Section Four: Number of Individuals Used Per Site and Training Requirement

Information was summarized when available concerning the number of individuals involved in product implementation and the training requirement for these individuals prior to their implementation of the product in their classroom. This information is presented to more fully describe the scope of the CEDISS program and the involvement on the part of the individuals presenting the product to the students.

Table XII presents information concerning the number of individuals involved in product implementation per site. It should be noted that in many instances individuals were used as control teachers, i.e., teachers not using the product but whose class is being tested as a comparison group. These individuals have been included in the tabulations due to the fact that many of the schools did not differentiate between which teachers were used as the control group and which were not. To provide consistency then, all teachers listed as included in the product implementation have been included in the summarization of Table XII.

Table XII: Number of Individuals Involved Per Product Per Site

Number	Number	Percent
One	8	18.6
Two	8	18.6
Three	5	11.6
Four	9	21.0
Five	5	11.6
Six	0	0.0
Seven or More	8	18.6
	Number = 43	100%

The information presented in Table XII represents information available for 43 of the 51 possible product summary reports (84.3%) while the largest percentage of teachers per site correspond to those sites having four teachers involved in the implementation. Table XII indicates that there was generally an even spread among the number of sites using one individual to implement a product and those using more individuals per site. Again, those sites using seven or more individuals to implement the product were using products that were most often curriculum development package or complete resource centers. In cases such as these, the individuals involved in product implementation were not only teaching staff. For example, staff from the library might have been included as well as other specialized staff who provided services to the school.

In many cases, training was required or provided to the individuals who would be implementing the product. The training sessions were most often conducted in three ways: inservice by developers of the product; inservice by current staff who had been inserviced before or who had previous experience with the product; and finally, through observation of the product being used in another site.

Twelve product reports (40%) indicated the training was crucial prior to product implementation. In all twelve cases training was received. Fifteen product reports (50%) indicated that the product did not require special training. Of these fifteen, however, product specific training was received in six instances anyway. Three products or 10% did not indicate if training was required.

Section Five: Month of Initial Implementation

This information was presented to indicate the time of the school year during which projects reporting this information began implementation. Such information is important as it indicates some constraints which may have been put on the project as a result of when projects were begun. Twenty-three of the fifty-one product summary reports reported this information (45.1%). Table XIII indicates that 95.6% of the projects started in January or after. For those projects which reported this information, the data in Table XIII show that a considerable start-up time was needed prior to project implementation. These data may indicate that start-up time should be an important consideration when planning future CEDISS projects.

Table XIII: Month of Initial Implementation

Month	Number	Percent
September	1	4.3
January	10	43.5
February	4	17.4
March	1	4.3
April	7	30.5
	Number = 23	100%

Section Six: Curriculum into Which CEDISS is Integrated

The final area to be discussed is the curriculum into which the products were implemented. The intent of gathering this information was to provide insight into which curriculum the career education products might be most easily integrated. However, only seven of the product reports (13.7%) provided this information. Within these seven, however, the breakdown is as follows: elementary curriculum 1, social studies curriculum 3, English - communication arts 3. In the future it is important that this information be reported as it will help to determine in which curricula areas future career education products should be implemented.

C. Results of Implementation

1. Evaluation Results

Evaluation results need to be reported on two levels. The first level is the product level. In all, thirty different products were evaluated by the 40 sites which submitted project reports to the evaluator. The results of the evaluations for each product will be presented in the second part of this report. General information, however, will be presented here. The second level of evaluation which needs to be discussed is how much evaluation was performed. Counting different sites who used the product, a total of 51 products could have been evaluated. General results for 51 possible evaluation will be presented also.

In reference to the general results, the evaluation of the 30 different products, the following information was found. Of the thirty products, 24 (80%) had evaluation data presented for them. Next, the quality of the 24 evaluations was studied. The operational definition of quality or appropriate evaluation used was: an evaluation design utilizing methodology for which information concerning the degree of program impact may be assessed. Only eight (33.3%) of the 24 evaluation designs provided enough information to indicate that the evaluation design would indeed provide the needed information. Another four (16.7%) of the evaluation reports did not provide enough evaluation to be certain the design was appropriate. Finally, ten of the twenty-four evaluation reports (41.7%) provided enough evaluation design information to determine that the design was inappropriate for the purpose needed.

As mentioned earlier, the second level of evaluation is the quality and level of evaluation occurring at the site level. A total of 51 evaluations could have been performed if every site evaluated all the products they had used. Thirty nine (76.5%) of the 51 possible reports reported any type of evaluation data regardless of the quality. Of these 39 reports, a total of 27 (69.2%) of the product evaluations reported positive results. This figure is used without regard to the quality of the evaluation due to the limited information concerning evaluation quality available as reported by individual site evaluation summaries.

2. Instrumentation

Evaluations of the CEDISS programs on the local level were almost always conducted using some form of instrumentation. For this reason, information regarding the instrumentation used will be summarized in this section. Two sets of data can be used to describe the instrumentation, the source of the instrument, i.e., commercial, locally developed, etc., and the type of instrument, i.e., achievement test, interviews, etc. Tables XIV and XV summarize these data.

Table XIV: Sources of Instruments Used

Source	Number	Percent
Locally Developed	34	64.2
Product Publisher	11	20.8
Commercially Developed	5	9.4
Unable to Determine	3	5.6
	Number = 35	100%

Table XV: Types of Instruments Used

Type	Number	Percent
1. Achievement Assessments	18	34.0
2. Survey/Questionnaire	14	16.9
3. Affective Inventory	9	16.9
4. Interviews	4	7.5
5. Observations	3	5.7
6. Informal Discussions	3	26.4
7. Logs	2	3.8
	Number = 53	100%

Tables XIV and XV show that the most commonly used tests were locally developed achievement tests. This reflects the fact that most evaluations were performed on a pre-post test results basis. When available, tests produced by publishers were developed (20.8% of tests used). In the case of many evaluations, surveys and questionnaires were used to obtain perceptual information of individuals involved in the program. In some cases, this information was the only source of evaluative data.

The largest lack in the information provided by the CEDISS sites was reliability and validity data for the instruments used. Only two sites reported information of this nature. It is therefore impossible to determine the quality of the instrumentation used.

D. Summary

To summarize the information presented in this report, there are three questions that can be asked. The first question is, "What have we learned about products;" second question "What have we learned about the problems these products addressed;" and, finally "What have we learned about implementation of the products." These questions will be answered in the following paragraphs.

A review of the information already presented shows that of the 150 CEDISS products made available to the CEDISS sites, a minimum of 30 of these products were used. It is important to know that this is the minimum number as the evaluators received information from only 40 different CEDISS sites. This leaves six other CEDISS sites unaccounted for. These six sites may have used six or more different CEDISS products. Of the products from which information was provided, the most common subject areas were career awareness, self awareness, interpersonal skills and decision making skills. Students were most often instructed through a combination of teacher instruction, workbook activities, and small group discussion. While most of the products dealt with "awareness type" issues such as the career awareness and self awareness, several products dealt directly with job seeking and employability skills. Examples of these skills would be the ability to correctly read a want ad, the job application process, expectations of the potential employer during interview and instruction on some of the common tax forms that a new employee would be expected to fill out. In only one case of all the CEDISS products did the teachers, administrators or students indicate dissatisfaction with the product. The CEDISS sites were generally impressed with the products and intended to either try new products in following years or expand upon the products that were currently being used.

A second concern is the relation of the CEDISS products to the problems the schools had intended the CEDISS program to address. The vast majority of problem statements fell into the category which could be labeled instructional problems. Examples of problems that would fall under this category are career exploration in the junior high, preparation of all seniors in the area of employability, career education infusion, or the area of self awareness. Some of the projects started out with problem statements that can be categorized either according to a guidance problem, for example, selecting a project or product revolving around guidance services for students. A problem may also have been in the area of placement. An example of a placement problem is one such as developing a job placement center which would help the students not only find a job, but also instruct the students in skills such as reading a want ad and filling out appropriate job application forms.

Within these three categorical areas, the information summarized indicated that the overwhelming majority of CEDISS products dealt with the instructional category. Tables II and VI indicate that the subject area addressed and the intended product outcome were most often of an instructional nature. A factor that may have contributed to this is that many of these programs were carried out in the middle school or below grade levels where the students would not have been as interested in placement services or guidance services aimed toward selecting an appropriate career as they would be in instructional services to help them become more self aware and more career aware.

Thus, it is the conclusion of this evaluation that as the majority of problems selected by the CEDISS sites indicated a need for instruction in the area of career education, the products made available through the CEDISS program met this need and provided a wide enough range of topics for which the schools could select their CEDISS product.

The final question which remains to be answered is what have we learned about implementation of the CEDISS products. The information collected indicated that the average CEDISS product was implemented for twelve weeks or less on a schedule of one day a week primarily by a single teacher. This indicates that the products selected were selected for implementation on a specific target audience. This leads one to believe that successful implementation does not necessarily require the involvement of the building administration or of district of I.S.D. levels of administration. It should be noted, however, that several of the project sites indicated that a factor in the success of the program was involvement of the building administration in the implementation of the CEDISS product. Involvement on the part of the administration will be particularly important if a product that is a complete curriculum package is to be implemented. This would also facilitate the implementation of training required prior to teacher use of the product. The major weakness, however, in the implementation process was the lack of appropriate evaluation methodology to determine the impact of the CEDISS products. In many instances, the wrong instrumentation was selected to properly measure the specified outcome of the particular product. Or, if the instrumentation had been correctly carried out the results of student performance were not mentioned in the product evaluation reports. It is therefore recommended that, in the future, greater care be given to the evaluation aspect of a CEDISS product implementation. Without proper evaluation methodology, the Career Education Office will not be able to determine which of the CEDISS products currently available are worthy of being retained and which should be discarded and replaced by new products.

Finally, the CEDISS program appears to have been a success inasmuch as the products addressed the problem areas of the individual schools. The products were used by the schools in attempt to solve problems and those people involved in the use of the products reacted favorably to the overwhelming majority of the available CEDISS products.

The next section of this report is a product by product summary of the information presented by the CEDISS sites. The information summarized includes a description of the product and how it was used, implementation information, evaluative methodology and outcomes.

Summary:
30 different products used
51 total products used (site products)
40 sites reporting data

CEDISS PRODUCT SUMMARY

Product Name	Fact Sheet Number	Target Group	User Information		Product Focus	Evaluation Results	Cost
			School	Size			
1. Careers for Your Lifestyle	166	Fact. 7 - 12 Used 11 - 12 Used 7,8	Churchill High School Livonia Michigan Saginaw Township Community Schools Jonesville Community Schools Norway Dist. 1340 Dist. 885	1990 26494 6802	Career Awareness: interviews with workers.	Pre/Post - Control/Treatment Career Planning Knowledge Test adapted from ACT used. No significant difference in gain scores found between the two groups.	$195.00
2. Kangaroo Kit	114	Used 5 and 7 Fact. K-12	Shiawassee I.S.D.	Five Schools	Leisure and its relationship to career exploration and decision making.	Pre/Post - Control/Treatment Cognitive Skills Test (60 items KR21 = .79) and an affective measure test (10 items, no additional data) significant difference in favor of the treatment group. Comments: Difficult to integrate time consuming to plan.	$ 75.00
3. Job Ahead: A Career Reading Series	199	Fact. 7-adult Used 8th	Deckerville Community	1140	Career Awareness with emphasis in basic reading skills.	Pre/Post - Control/Treatment Teacher developed test based on curriculum content KR21 = .84. Significant difference in favor of the treatment group.	Specimen Set $20.95

CEDISS PRODUCT SUMMARY

Product Name	Fact Sheet Number	Target Group	User Information		Product Focus	Evaluation Results	Cost
			School	Size			
4. Finding Your First Job	162	Fact. 7-10 Used 9	Lakeview High School	655 District 2041	Skills to aid in finding a first job and keeping it.	Lakeview found significant differences in favor of treatment on a pre/post control/treatment design using the Employment Preparation Survey. Substantial control/treatment group differences on the pre-test measure make the validity of results questionable.	
5. Magic Circle	214	Pre-school-6 Used Head-start-fifth K-5	Duffield - Detroit Public Schools Mason County Central Schools	Duff. 545 District District 3565	Self awareness and interpersonal skills.	Duffield - "Program successful in terms of our objectives". No supporting data. Mason - No information.	$103.00
6. Valuing Approach to Career Education (3-5)	224	Fact. 3-5 Used 5th	Addison Community Schools Port Huron Area-Lakeport School	Comm. 1590 Lakeport 295 District 13929	Personal values, job satisfaction, life roles and concept of change.	Locally developed test used in pre-post control/treatment design. No test data or statistical analysis performed. Treatment group showed more of a positive trend than control. Port Huron - no information.	$499.95
7. Valuing Approach to Career Education (K-2)	225	Fact. K-2 Used K-2	Port Huron Area Lakeport School	Lakeport 295 Dist. 13929	Self-awareness, awareness of others, career awareness.	No evaluation results reported. Tested students using test included in package. Also administered locally developed parent teacher surveys.	$347.50

CEDISS PRODUCT SUMMARY

Product Name	Fact Sheet Number	Target Group	User Information: School	User Information: Size	Product Focus	Evaluation Results	Cost
8. Freestyle	249	Fact. 9-12 Used 6 and 7	Bay City Public Schools	Dist. 13810	Career Awareness, self-awareness - breakdown of role stereotyping by sex.	ISR study underway pre/post control/treatment design utilized. No significant differences found between the two. Validity of study questionable due to treatment group not viewing the entire series.	$407.00
9. Appalachian Educational Laboratory: Career Information System and Exploring Career Decision Making	237	Fact. Secondary Used 8-11	Fremont Jr. High Fowlerville Comm. Iroquois Middle (Grand Rapids) Big Bay de Noc L'Anse Creuse	Dist. 2550 Dist. 2250 Dist. 36208 Ire. 905 Dist. 95 Dist.	Career exploration, self-exploration, career-decision making and career planning.	Pre/post testing. Gains not statistically analyzed. It appeared that student skills at the end of the program were better than their skills at the beginning of the program.	Prices may be purchased separately. Total Cost $269.10
10. Career Awareness Exploration Kit	172	Fact. Grades 4-8	Bangor Middle School Van Buren I.S.D.	Dist. 1800	Career awareness, attitudes toward work and work related activities.	Pre/post control/treatment design used. Teacher survey administered. No results given.	In Oregon: $49.95 Outside: $54.96
11. Career Development Centered Curriculum (Colome Project)	124	Fact sheet: K-6	Pennfield Comstock Inland Lakes Hale Area Ionia Bedford Fennville	Dist. Dist. 2932 Dist. Dist. 810 Dist. 3285 Dist. Dist. 1825	Self awareness, goal setting, roles people have in society, career awareness.	Has JDRP approval.	$50.00 total $ 2.00 per unit

CEDISS PRODUCT SUMMARY

Product Name	Fact Sheet Number	Target Group	User Information		Product Focus	Evaluation Results	Cost
			School	Size			
12. Employability Skills	209	Fact Sheet: Secondary	Lewis Cass I.S.D. Copper County I.S.D. Big Bay de Noc Community Benton Harbor		Skills necessary to get and keep a job.	One school developed an instrument to measure students skills during an interview. Pre/post design. No statistical analysis performed although a slight gain in the skill was reported.	T.P. Sheets $5.00 T.P. Sheet grades $10.00 (teacher)
13. Exploring Careers	159	8th grade	Norway	Dist. 885	Awareness of career ed. and self-awareness.	No data reported.	No data reported.
14. First Jobs	205	Secondary	Glen Lake Saginaw Township Community Schools	Dist. 6802	Practical job applications skills.	Pre/post test control/treatment design. Locally developed cognitive skills test used. No significant differences found. Validity of instrument questionnable.	Module I and II combined $159.00 separately $ 90.00
15. Getting it Together Reading Series about People	197	7th adult	Deckerville Comm. Schools	Dist. 1140	Improvement of basic reading skills and career awareness/self-awareness through stories presented.	No information available.	Sample set $19.70 Level I $4.15 II - $4.15 III - $4.15 Teachers grade $2.30 Answer Key 80¢

CEDISS PRODUCT SUMMARY

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			School	Size			
16. Goofy Goes to Work	173	7th and 8th grade Fact: Secondary	Saginaw Township Community Schools	Dist. 6802	Career awareness/ job seeking skills.	Locally developed test administered on a pre/post schedule. Interviews conducted post. Formal statistical analysis not conducted "Product seems to create a willingness on the part of the student to accept the traditional academic subject matter as a method of achieving career goals and future employment" Product needs supplementary materials to achieve maximum effect.	$119.00
17. Health: Decisions for Growth	112	Fact: 5th and 6th Used at 7th and 8th grade	Addison Community Schools Burton Junior High (Grand Rapids)	Dist. 1590 Burton 864 Dist. 36208	Physical fitness, environmental health, and anatomy.	Pre/post design and test items provided in product used in both schools. Statistical analysis not performed. However, in both cases post-test scores were higher than pre-test scores.	Texts: Level 5 $5.79 Level 6 $6.24 Resource Book $3.00 each level film/ cassette/ teachers $48.00 level Test Booklet 75¢ each
18. Interchange Grades 10 - 12	161	Grades 10 - 12	Mason County	Dist. 3565	Self awareness, interpersonal skills.	No information presented.	$159.95
19. Interchange Grades 7 - 9	160	Grades 7-9	Mason County	Dist. 3565	Self-awareness, interpersonal skills.	No information presented.	$159.95

CEDISS PRODUCT SUMMARY

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			School	Size			
20. Just Me Book	108	1st grade	Lake City Schools	Dist. 1200	Student self-awareness.	Pre/Post administration of the Self-Concept Assessment Inventory (Robert Koehs, Marquette Alger I.S.D.) No significant difference found.	$6.50 for teachers guide.
21. Me and Others	158	Fact Sheet: 7-10 Used: 9	Lakeview High School Addison Community	Dist. 2041 H.S. 655 Dist. 1590	Self-awareness and self-esteem.	This school used a pre/post multiple measure design. No significant difference found. Addisons evaluation utilized a pre/post assessment with a vocabulary measure. Instrumentation caused the evaluation to be judged non-valid.	12 workbooks and teacher measure ($34.00)
22. My Bread and Butterflies Career Book	105	Fact: 4-6 Used: 3-6	Lakeview School		Interaction of personal interests and job characteristics, job awareness, self-awareness.	The school used a sex-stereotyping scale on a pre/post measure. The product had very little to do with sex-stereogyping. Therefore, the evaluation results are of questionable validity. No significant differences found.	$1.50 teacher $1.50 student
23. Project Hear	243	Fact: 4-12	Bad Axe Public Schools	Dist. 1726	Self-awareness, sex-role stereotyping, occupational interests, decision making strategies.	Product has JDTP approval.	Primary level $59.45 Int. $56.08 Secondary $86.24

CEDISS PRODUCT SUMMARY

Product Name	Fact Sheet Number	Target Group	User Information		Product Focus	Evaluation Results	Cost
			School	Size			
24. ACT Career Planning Program Product	217	11th grade	Houghton Lake Community Schools	Dist. 1871	Career decisions based upon test results.	Evaluation data not yet available.	No info.
25. Career Awareness: K-6 (Texas Education Agency)	No fact sheet	Grades 1-6	Tahquemenon Public Schools		Development of conceptual areas in career education.	Locally developed Career Education Cognitive Skills Test. Administered pre/post - no control. Significant difference for grades 1 and 3. Not significant but positive grades 4 and 6. Slight decrease grade 5.	No info.
26. Duso Kit (Developing understanding of self and others)		1st grade	Addison Community Schools	Dist. 1590	Self-awareness and awareness of others.	Pre/post administration of a survey instrument and student self-kept behavior log. No statistical analysis were performed and no evaluation data reported.	No info.
27. Free to be You and Me	174	K-3	Alma/Hillcrest Elementary	Dist. 3413 School 339	Self-awareness and awareness of others.	Post only - teacher questionnaire and objective measure test. No data reported. Stated that "students had a high degree of group success". No supporting data.	$160.00
28. Untitled: Prerequisite skills for vocational education		Assumed Secondary	Gogebic-Ontonagon I.S.D.		Identification and development of prerequisite skills objectives for prevocational education classes and then implementation of the objectives.	Success measured by student performance in following year's vocational classes. Vocational teachers indicated students were better prepared. More emphasis needed in basic skills. No supporting data.	No info.

CEDISS PRODUCT SUMMARY

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			School	Size			
29. Scott Forseman Reading Series		K-8	Maple Valley		Improvement of reading skills.	Very little information available. School wanted to compare this product with an unidentified second score. Teachers received the product favorably according to a teacher questionnaire. (No supporting data.)	No info.
30. Careers: A Supplemental Reading Program		8th grade	Norway	Dist. 885 School 231	To develop self-awareness, career awareness and career education knowledge	No evaluation.	No info.

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